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PART FIRST.
ORIGINAL COMMUNICATIONS.

ART. I.—*A Critical Examination of the Disease known as Bronzed Skin, or Disease of the Supra-Renal Capsules.* By EDWARD B. DALTON, M.D., Resident Physician of St. Luke's Hospital, New York.

FIVE years since (May, 1855) Dr. Thomas Addison, Senior Physician to Guy's Hospital, London, called the attention of the medical profession to a peculiar and fatal disease, the symptoms and characteristics of which had, up to that time, been either overlooked or misunderstood.

In a memoir of some forty pages, entitled, "The Constitutional and Local Effects of Disease of the Supra-Renal Capsules," he describes and discusses the causes and relations of certain morbid symptoms, the concomitance of which he now believes to indicate the presence of a disease hitherto unrecognised, and dependent for its origin upon some pathological condition of the supra-renal capsules. In support of his opinions, he adduces the history of eleven cases, which had fallen under his observation within the five years immediately preceding the publication of his work.

The subject at once excited great interest. Other observers in different countries, and independently of each other, soon began to report cases of a similar character to those described by Dr. A., which, with the investigations and results accompanying them, have, from time to time, been made public. Au-

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topsies, vivisections, chemistry, and the microscope have all been brought to bear upon the further elucidation of the subject; so that, at the present date, a great deal of matter has been laid before the profession in regard to it.

This matter, however, is very much scattered, and accompanying what is definite and reliable is much that is irrelevant and inconclusive. It is my purpose, in the following thesis, to separate the one from the other, to select and bring together the most important facts and well-attested conclusions which the investigation of this subject has elicited, and to show, so far as I may be able, the point of accurate knowledge in regard to it which the profession has now reached.

As I have already mentioned, this affection is called by Dr. Addison "Disease of the Supra-Renal Capsules," from the supposed dependence of its symptoms upon a pathological condition of these organs.

By the French it is termed "Bronzed Skin" (Peau Bronzée), from a peculiar discoloration of the integument which is its most prominent external mark. So far as I am aware, it is a disease confined to no especial locality, to no particular season of the year. It occurs sometimes by itself, sometimes complicating other disorders. It is met with in persons of either sex, and of any age; though it is generally observed in those who have passed the period of youth. In its access, it is insidious in the extreme, usually escaping detection until the gradual but steady loss of health has rendered the patient unfit for his usual occupations. In its duration it is variable, sometimes progressing with such rapidity as to destroy life in a few weeks, while in other cases the patient bears the indelible mark of his relentless malady for years.

Its termination, almost invariably, is death.

The symptoms are as follows: General debility, coming on without any assignable cause, and from the slightest possible manifestation, increasing with a progress so slow and gradual, that, when at last it has become so marked as no longer to escape notice, the patient is unable to assign any date for its commencement. Accompanying this loss of physical power, a more or less marked decrease of intellectual energy is noticed; and the patient experiences a growing disinclination to either bodily or mental exertion. The gait becomes slow and feeble; the countenance dull and inexpressive; and the whole appearance and air languid. The digestive powers participate in the general lack of vigor; the appetite fails; the bowels are constipated; there is nausea with occa-

sional vomiting. This enfeebled condition of the system is liable to the most sudden and alarming increase under the slightest disturbing influence—the mere operation of the simplest cathartic often producing such an utter prostration of the vital powers, that death seems imminent from sheer exhaustion.

At times, indeed, attacks of faintness occur with no assignable cause whatever; and all this when the apparent progress of the disease, and the usual condition of the patient, are very far from accounting for such occurrences. The circulatory system is enfeebled. The action of the heart is weak and irritable, and the pulse corresponds with such a condition, being in some cases small and feeble, in others—and this is the more common—full, but soft and compressible.

The respiration, too, is affected, shortness of breath being often complained of, especially on any attempt at active exercise; and the patient is subject to attacks of giddiness and dimness of vision. Besides the comparative inactivity of the intellect, slight mental aberrations are occasionally noticed. Accompanying these symptoms there is a certain degree of emaciation. This symptom, however, is not at all in proportion to the loss of strength. It is rarely extreme, generally but moderate, and, in some cases, almost entirely absent. The tissues, however, although remaining of nearly their usual bulk, lose much of their natural solidity, and become soft and flabby, so that often the patient has sustained a loss in weight far greater than the mere change in appearance would indicate.

As a general rule, the patient does not complain of much pain, though this symptom is not entirely wanting. A sense of uneasiness, at times amounting to actual pain, is felt about the lumbar region, and painful sensations are now and then complained of in the epigastrium.

But the most prominent and characteristic symptom of this strange disease, and one which by many observers is considered pathognomonic, is the peculiar cutaneous discoloration already alluded to. It consists in a curious staining or mottling of the skin, differing somewhat in shade in different cases, and in different stages of the same case, but having a general similarity of hue in all. Dr. Addison describes this color as presenting "a dingy or smoky appearance, or various tints or shades of deep amber or chesnut-brown, and in one instance, the skin was so universally and so deeply darkened that, but for the features, the patient might have been mistaken for a mulatto." It has often been compared

to the color of a bronze statue from which the polish has been rubbed off, whence the French name "Peau Bronzée." Dr. Isaac E. Taylor, however, who has taken great interest in this subject, and whose opportunities for experience are ample, has, in his well-known monograph, laid especial stress upon the comparison of the complexion of patients affected with this disease to that of mulattoes of a greater or less degree of color. In the only two cases which I have had the fortune to see, the latter illustration seemed to me the more appropriate.

So manifold, however, are the variations in shade, that these slight differences in the descriptions of different observers need give rise to no doubt as regards the identity in character of the color. The distribution of this pigment, for it has been proved to be a deposition of such matter, is peculiar. While the entire integument is tinged with a slight dinginess, it seems always to elect some or other of certain situations for its especial accumulation, and as invariably to avoid certain others. The forehead, cheeks, neck, mucous membrane of the lips, chest, axillæ, elbows, backs of the hands, penis and scrotum, and, less frequently, the thighs and knees, some or all, are the more ordinary sites of the greatest intensity of color, while the palms of the hands are but slightly colored, and the matrices of the nails and the conjunctivæ never affected. It seems to exhibit a special predilection for those parts of the body which are most exposed to the influence of the atmosphere; so that, by a casual observer, the discoloration might easily be mistaken for the ordinary browning by the sun. Indeed Dr. Taylor has found this resemblance oftentimes so close, that, besides the comparison to the mulatto, he denominates the diseased hue "the sunburnt appearance of the skin."

The deposit often takes place in distinct patches, having a well-defined line of demarcation. On the forehead, for example, commencing just above the eyebrows, it will extend upwards to within a few lines of the roots of the hair, laterally over each temple, down upon the cheeks, thence to the sides of the neck, where having covered more or less of the entire surface, it comes to an abrupt termination, to show itself again in similar patches upon the chest, flexures of the arms, and other parts. It is usually particularly dark upon the face and backs of the hands, in which latter situation the unaffected matrices of the nails present a strong contrast to the general duskiness, and afford a striking distinction between this and the discoloration of other cachexies. The mucous membrane of the lips, especially just at its junction

with the integument, is generally spotted with peculiar intensity, presenting an appearance as if stained with ink, and in some instances the membrane quite within the cavity of the mouth is thus affected.

Under the head of case VI. in Dr. Addison's book, two cases are described in which the appearance of the skin presented a most curious deviation from that ordinarily observed. Besides the dark patches amid the general dusky hue usually found, there were other patches having a remarkably blanched appearance, which Dr. A. believes to have been owing, not solely to contrast with the surrounding color, but to an actual deficiency of pigment; a deficiency which was found, on close inspection, to be shared by the hair situated upon the parts thus affected. In the latter of the two cases there existed such a spot upon the pubes, the hair covering which was nearly equally divided, one half retaining its natural dark color, the other being perfectly white.

In the number of the *Gazette Hebdomadaire* (Paris) for the 26th December, 1856, there is an account of a case reported by M. Giacomo Mignoni, in which this remarkable loss of color affected the hair generally. This discoloration probably commences simultaneously with the other symptoms, increasing in extent and intensity as the disease progresses, though generally with so slow and gradual a change as not to attract the attention of the patient or his friends until decided symptoms of ill-health have become evident. As the skin becomes darker, the conjunctivæ not only are free from any deposit of pigment, but even lose considerable of their natural opacity, and become pearly and anæmic. In some cases the dingy hue imparted to the skin during the early stages of deposition of pigment gives to the patient an unwashed appearance; so much so that not unfrequently the physician is especially consulted in regard to the annoyance arising from this symptom. It is, however, very difficult to convey a clear idea of this color, in its variety of shades, by a mere verbal description; but when once seen and its peculiarities carefully noted, its general similarity in all cases is such as to prevent confusion.

I have already alluded to the immediate origin of this color. Minute examinations by several French microscopists have resulted in the opinion that it arises from an abnormal deposit of pigment cells in the layer of the integument, which is the seat of the natural healthy coloring matter, the rete mucosum, and in the number of the *Gazette Hebdomadaire* for the 12th of December, 1856, the opinion of M. Vulpian is given; and in the *British and Foreign Medico-*

Chirurgical Review for April, 1858, Dr. Harley gives his own, and that of Mr. Hutchinson and Mr. West's, all of whom agree that the pigment is identical in character with that in the skin of the negro; that is, the same as in the skin of man in general, the only abnormity being in the unusual quantity.

As the disease progresses, and especially as it draws near its fatal termination, all these symptoms become more pronounced. The debility increases until the patient can no longer walk, or even sit up; the intellectual faculties become more and more sluggish; the appetite is gone; the digestive organs refuse their office; the bowels operate only at long intervals, and then unnaturally; the stomach, irritable to an extreme degree, rejects everything that is put into it; the tissues, wasting now much more rapidly than at first, retain hardly a trace of their natural firmness; the weakness and irritability of the heart's action increases; the pulse is feebler and more irregular; fainting fits become more frequent and spontaneous, and the general demeanor is puerile. The breath is fœtid, and the odor of the body cadaveric; and still, withal, the ever-deepening hue of the surface proclaims the steady progress of the disease.

Thus, after an illness of perhaps a month or two, perhaps of several years, the patient sinks at last and dies, sometimes with the intervention of coma or convulsions, sometimes with but the appearance of simple physical exhaustion; but often with a final suddenness which takes by surprise even those who have long been watching him.

Such are the positive symptoms of the disorder known as "Bronzed Skin," or, "Disease of the Supra-Renal Capsules." They differ somewhat in relative importance in different cases, and in many are, to a certain extent, altered or masked by the concomitance of the symptoms of other troubles under which the patient is at the same time suffering. In spite, however, of all sources of confusion they are generally sufficiently distinct upon a close and rational examination; and become far more decisive in their indications, when taken in connexion with the sources of negative evidence, which I shall now consider, as relating to the diagnosis of the disease.

And first, of the anæmia and general debility. Notwithstanding the numerous causes of a chronic morbid state of this kind, and the many forms under which it presents itself, still a case seldom occurs in which we are not able, by close investigation, to detect some efficient cause for its production. In the disease we are speaking of, there is no such to be found.

No hemorrhage has taken place; no diarrhœa has occurred; no extensive suppuration or other debilitating process is discoverable; the most full and minute physical examination of both chest and abdomen fails to detect the slightest disease in any of the internal organs; the urine, whether under the microscope or in the test-tube, affords no clue, in quantity and quality it is perfectly normal; an examination of the fæcal discharge is equally unsatisfactory; there has been no exposure to malaria of any kind; no habits likely to produce such a state have been indulged in. In a word, the circumstances surrounding the patient have been in every way as favorable to health as usual, and yet some morbid influence has insidiously crept upon him, which, with a gradual but unflagging progress, is sapping the vital powers in spite of all that is done to prevent it. As in other diseases, so in this, one or other of the causes alluded to may co-exist, giving rise, so far as this individual symptom is concerned, to confusion, and rendering it far from pathognomonic. But by having a clear idea of its character when uncompli cated, we shall the more easily detect it under other circumstances.

For distinguishing the peculiar discoloration, the evidence afforded by its positive characteristics is strengthened very much by that of its negative qualities. It may at once be known from that arising from any trouble in the liver, by the facts that the conjunctivæ are unaffected, and that the coloring matter of the bile is not present in the urine. From that produced by the existence of other cachexies, or by the agency of natural causes, it owes its distinction mainly to its situation and to the marked peculiarities in its distribution, lying entirely beneath the epidermis, and leaving, as it does, certain parts unaffected which have no exemption from pigment deposited from other causes, and displaying peculiar intensity in parts not particularly subject to other cutaneous discolorations. Among the latter the mucous membrane of the lips and mouth is one of the most striking, while, as belonging to the former class, I have already alluded to the conjunctivæ and matrices of the nails, and, in a less degree, the palms of the hands. The absence, too, of any known cause, whether natural or morbid, is strongly corroborative.

Of the treatment of this disease I have very little to say, and that little has reference rather to negative than to positive measures. I find, in the reports of some cases, that a constitutional tonic plan of treatment, especially the use of quinine, has seemed of temporary service.

Dr. Todd has recently recommended the use of sugar, on

the ground that the disease interrupts the production of sugar in the liver.

Further than this I know of no positive plan which possesses even this limited value. Negatively, I should infer both from the records of others and my own limited observation, that the use of drugs of a reducing or depressing nature is especially dangerous, and that even ordinary cathartics should be used with great caution. Every disturbing or debilitating influence should be most scrupulously avoided.

As so many cases of this disease have been reported within the last few years, I shall only give a brief history of two which have fallen under my own observation, merely alluding to such points in others as are valuable for illustration, or as evidence.

Case 1.—The first case which I saw was that of a boy seventeen years of age. When I first saw him, which was in August, 1857, his symptoms were as follows: great debility, lack of appetite, nausea, irregularity of the bowels, tenesmus and frequent inclination to go to stool, neuralgic pains in the head, abdomen, loins and lower extremities, occasional slight attacks of delirium, disturbance of vision, vertigo and ringing in the ears. He had suffered twice from epileptic attacks; the heart's action was feeble and irregular, the pulse moderate in rapidity, but weak. The skin was markedly and peculiarly discolored. On a casual observation it appeared like that of a light mulatto, but a more careful examination showed a singular patchy arrangement. The face, including a small portion of the sclerotic of the right eye, was of a uniform dark shade, with the exception of a stripe of half an inch in width, extending across the forehead just below the roots of the hair, where the complexion was normal. The ears and upper half of the neck were of the same unnatural color as the face, as were also the elbows posteriorly, the backs of the forearms, wrists and hands, and the knees anteriorly. The penis and scrotum were particularly dark. Some slight patches were to be seen on other parts, and scattered here and there were small spots, in size like freckles, but in color almost black. At the junction of the labial mucous membrane with the integument were several small deep stains. The conjunctivæ and matrices of the nails were free from color.

I will give the principal points in the previous and subsequent history of this patient, which, together with notes of the autopsy, were very kindly given me by the attending physician, Dr. Charles A. Savory, of Lowell, Massachusetts.

In the month of April, 1857, it was noticed that the boy's complexion was darker than usual. This change was ascribed to exposure to the sun. In the following June his health began to fail, and during the four or five succeeding weeks the symptoms which I have described gradually became noticeable. As an evidence of the patient's extreme debility I would mention that the administration of two drachms of castor oil, which was followed by an immediate operation, produced such extreme prostration as to necessitate a liberal use of brandy; which latter prescription afforded the patient more relief than anything else throughout his illness. At the time I saw the patient the emaciation was but moderate, though his weight was very much below what it had been in health. During the months of September and October the symptoms gradually increased in severity, though at times the patient would rally, and, with renewed appetite and digestion, seem for a few days to have mastered his disease; but it was only to give way more hopelessly than before. His pulse varied in character, being sometimes so feeble as hardly to be perceptible at the wrist, and at others full, soft, and compressible. Its rapidity was very much accelerated by exertion, the number of beats being increased thirty per minute by the mere act of rising from a recumbent to a sitting posture. The patient's eyes often remained open during sleep. During the last fortnight of his illness, the debility was such as to confine him to his bed. He became drowsy and disinclined to talk, though perfectly rational. On the 20th of November, 1857, he suddenly expired, without the intervention of any new symptom. Throughout the entire course of the disease repeated and careful examinations could detect no efficient cause for the symptoms. The diagnosis of "bronzed skin" was made a few weeks after the patient first consulted his physician.

It will be noticed that in this case the duration of the disease was eight months from the first appearance of the discoloration, and six from the commencement of the other morbid symptoms.

The prominent appearances at the autopsy were as follows: body much emaciated; discoloration as distinct as during life; marked incurvation of the abdomen. "Both suprarenal capsules were found to be enlarged, hardened, and to contain a considerable quantity of calcareous matter. The left was much larger than the right, and both seemed to be diseased throughout their entire structure." No other marks of disease worthy of notice were found.

Case 2.—The second case was that of a man some fifty

years of age. At the time I saw him, which was in September, 1857, he had been out of health for three years. He had been losing strength and flesh, though he was by no means strikingly emaciated. His weight was some fifty pounds below his healthy standard. The skin was strikingly discolored, so much so, indeed, as to excite a suspicion of "bronzed skin" in the mind of his attending physician, upon his first visit, previous to any inquiry or examination. It was of the same mulatto-like hue already described, but did not exhibit so strikingly the patchy arrangement, being uniform over the face, neck, and ears.

The history, as obtained from the patient, is as follows:— In the summer of 1854 he began, rather suddenly, to lose his appetite. This was followed by gradual loss of strength and flesh, which was accompanied by debility and ill-defined pains in the abdomen, and over the region of the kidneys. His skin began to look dingy in the autumn of the same year, and the intensity of the hue had been gradually increasing since. He had been under medical treatment several times during his illness, but without material benefit. His symptoms had always been ascribed to hepatic trouble. He had been steadily, but very slowly, losing ground since the first.

Subsequently to the time when I saw him, I learned from the attending physician that his condition steadily deteriorated, with all the symptoms ascribed to capsular disease well marked, and among them he particularly noticed a disagreeable odor of the breath, and a halitus from the body. The bowels became very torpid, operating only at intervals of ten or fourteen days, and the abdomen was so very much incurvated that the anterior walls seemed in contact with the vertebral column. The debility and gastric irritability became extreme. He died in February, 1858, with no new symptom, but dropped away so suddenly at last as to surprise very much his physician and friends. No post-mortem examination was obtained.

Here we see the disease continuing three years and a half, instead of a few months, as in the last case.

The Pathology of this disease is still involved in great obscurity. Notwithstanding the amount of labor that has been spent upon this question, little has yet been gained, except so far as controversy, and its consequent stimulation to further inquiry is a benefit. Autopsies in great number have been made, but with no decisive result. Series of physiological experiments have been instituted and carried out with the greatest care and skill, and the evidence thus

afforded is contradictory or inconclusive. Still, from the mass of material furnished by these various sources, not a little evidence may be sifted which, though certainly far from decisive, is yet of great value in preventing the establishment of false views.

The theory of a connexion between "bronzed skin" with its accompanying symptoms, and a morbid state of the supra-renal capsules, was suggested to Dr. Addison by the evidence of the most faithful and impartial post-mortem examinations. In a succession of such examinations made upon the bodies of patients dying with the peculiar symptoms which had so often and so completely puzzled him, he sought in vain for anything to account for such manifestations, until, with continued and thorough investigation, he was struck by the fact that, in all these cases, the supra-renal capsules were the seat of an organic change. Here, then, there seemed to him a reasonable hope of finding a solution of the problem. A pathological condition of the system had been observed, with which no invariably coexisting organic lesion was discoverable, either before or after death, excepting only in a pair of organs whose office in the animal economy had never been ascertained.

Dr. Addison at once saw the importance of these concurring facts, and his subsequent labors only served to establish in his mind the conviction that this apparently invariable association of these two phenomena arose from the existence between them of the relation of cause and effect. In ten of the eleven cases cited by him the supra-renal capsules were either entirely destroyed or very seriously altered in structure, and in the remaining instance the emulgent vein of one of them was so completely obstructed by a malignant growth as to cause an intense congestion of the organ, and a consequent probable interruption of its function. Thus far all was in favor of the correctness of his opinion, and for a time the results obtained by other observers coincided with his own.

But soon, with further inquiry, and an increased number of reported cases, other and conflicting evidence was brought to light, until this supposed connexion between bronzed skin and capsular disease appeared by no means so certain as at first. Now, instead of there being no case on record where one of these conditions existed without the other, there are many such, all detracting more or less from the plausibility of their mutual dependence, and each one of those, where disorganization of the capsules has been found unaccompanied by the cutaneous discoloration, being a direct refutation of the

necessity of such an association; since, while some other morbid hue might be mistaken for that of bronzed skin, there can be no doubt in regard to a case of well-marked organic lesion.

I will notice a few cases. In the *Gazette Hebdomadaire* for the 3d October, 1856, M. Puech, interne at Hôtel Dieu, Toulon, relates a case which he believes to be one of genuine bronzed skin, and yet where no disease of the supra-renal capsules was discovered. The following is a free, but I believe a correct translation of the author's description of the discoloration, which is the only symptom he especially notices:—"The face is pallid; while upon the belly and chest are several large brown spots, situated in close proximity to each other, of a hue similar to that of desiccated cartilage, or to use a more accurate simile, to that of the areola upon the breasts of women several months advanced in pregnancy. This color, less marked at the edges of the spots, grows darker about the umbilicus. From the mons veneris it extends to the region of the ensiform cartilage, and thence, stretching away to either side, leaves the breasts unaffected. Washing has no effect but to render the discoloration more striking by contrast. The skin is delicate and brilliant, presenting neither eruption nor desquamation."

As M. Puech anticipates, it is at once to be objected to this case, that the peculiar distribution of the color is not at all such as observed in those cases where capsular disease was found after death; and although, as the author replies, no one can mark out absolutely the invariable situation of the stains of bronzed skin, still the general similarity, in a great majority of cases, is such that we cannot but look with doubt upon one where the discoloration is wholly confined to the trunk, thus losing the diagnostic contrasts of the pearly conjunctivæ and unaffected matrices of the nails with the surrounding dark hue, and the deeper stains upon the lips.

A second case is reported by M. Puech, in the same journal for the 17th of April, 1857, which, although very imperfect, is certainly of greater weight than the last.

I quote the pertinent parts of the account. "A year and a half since, the patient remarked that his skin was becoming brown. At that time he suffered from nausea and alternate constipation and diarrhœa. In the month of August last he had dysentery, from which he recovered, but suffered a relapse in a month. He died the following January of a peritonitis consequent upon a perforation of the intestine."

The appearances noticed at the autopsy were as follow:—

"The skin of the face is brown; that of the chest, abdomen, anterior and inner parts of the thighs appears as if covered with a layer of sepia. A piece of the skin preserved in alcohol has not, after three months, lost any of its color. The liver contains several collections of purulent matter. *The supra-renal capsules present not the least alteration.*"

A case where the deficiency in coexistence was the reverse of that in the preceding is related in the same journal for the 5th December, 1856, by M. Dechambre. The case was presented to the Pathological Society of London, by Dr. Ogle. The report is so limited, I give it in full. "The two capsules were disclosed, having a rounded form, and almost entirely filled with a deposit of scrofulous matter, very firm, and of a yellowish white color. The small portion free from this deposit was of a bright red hue. The spleen was large and soft, and its blood loaded with white corpuscles. These supra-renal capsules were taken from the body of a woman dead of phthisis, with scrofulous inflammation of the bladder, of one kidney and its corresponding ureter. There existed no trace, at least at the time of the autopsy, of bronzed skin."

It would be superfluous, however, to multiply quotations from accounts bearing upon this point, since most ample and carefully prepared collections of such cases have recently been made, and are readily obtainable.

In the London *Medical Times and Gazette* for the 8th of March, 1856, Mr. Jonathan Hutchinson has published a collection of twenty-seven well-authenticated cases, which collection was republished in the *American Journal of the Medical Sciences* for July, 1856.

In thirteen of these twenty-seven cases both supra-renal capsules were found seriously diseased, their structure being, in seven instances, completely destroyed. In four cases one only was diseased. In eight there was either no autopsy, or the supra-renal capsules were not examined. Of the remaining two cases, one was still progressing at the time of the report, and the other had recovered, the symptoms, in the latter, being supposed to have arisen from an acute inflammation of the capsules. In all these cases there was well-marked bronzing of the skin, as well as more or less of the other symptoms ascribed to the state of things found at the post-mortem.

Here certainly is strong evidence in favor of Dr. Addison's views. Still the amount is far too limited to decide the question. Let us look at the other side.

In the January and April numbers of the *British and Foreign Medico-Chirurgical Review* of the year 1858,

George Harley, M.D., has published an article treating very fully of the probable functions and relations of the supra-renal capsules. In discussing their pathological importance, he cites some nineteen cases, the testimony of all of which is utterly opposed to the theory of a connexion between bronzed skin and capsular disease. In nine of them the supra-renal capsules were found to be either very seriously diseased, or totally destroyed, and yet no trace whatever of bronzing of the skin existed. On the other hand, in seven the bronzing was strikingly well-marked, and yet no capsular disease was found, excepting in one instance, and in that it was extremely limited in amount. In a postscript Dr. Harley adds that there are now on record fifteen well-authenticated cases of serious disorganization of the capsules unaccompanied by any cutaneous discoloration whatever; and eight of well-marked bronzing of the skin with no capsular disease.

Taking now into consideration all the evidence which pathological research has thus far brought to bear upon this question, all that it seems to me justifiable to assert is, that in the majority of cases, but by no means in all, disease of the supra-renal capsules has been found co-existing with bronzed skin and its accompanying symptoms, but whether or not any connection, such as that of cause and effect, exists between them, the testimony thus far is insufficient to decide.

Soon after the publication of Dr. Addison's work, M. Brown-Séquard performed a series of vivisections, in the hope of discovering the functions of the supra-renal capsules, and thus throwing light upon their pathological relations. The results of his investigations are published in the *Gazette Hebdomadaire* for 29th August, the 9th and 15th of September, 1856, and the 20th February, 1857, and he has given an analysis of the conclusions of other observers, and a restatement of his own views, in the first number of the *Journal de la Physiologie de l'homme et des animaux* published by himself in January of the year 1858.

His experiments consisted in the more or less entire extirpation of one or both supra-renal capsules in a number of small animals of different species. He found that death resulted from this, with the intervention of great physical prostration, in the course of a short time, more or less limited, according to the severity of the injury to the organ, and varying in different kinds of animals. He operated on mice, guinea-pigs, rabbits, cats, and dogs, and he places the average duration of life, after the extirpation of both capsules, at seventeen and a half hours. In general terms, the con-

clusions he draws from his experiments are, that the functions of the supra-renal capsules are essential to life in animals not albinos, and that the suppression of these functions results in death more or less rapidly, according as it is more or less immediate and entire; that the complete extirpation of these organs is more rapidly fatal than that of the kidneys.

The exception made in regard to albinos was suggested to M. Brown-Séquard by some experiments of other observers, which I shall allude to. In regard to this he says, that the fact sometimes observed, that albinos seem to survive definitely the loss of these organs, tends to prove that in animals possessing color, one of the principal causes of death after such a loss is an undue accumulation of pigment.

Thus in physiology, as in pathology, the early results were in favor of the original theory of Dr. Addison. Later ones, however, are far from substantiating the preceding. In the *British and Foreign Medico-Chirurgical Review* for January, 1858, Dr. Harley has published a very forcible and interesting article, a part of that already alluded to, in which he gives the results obtained by him from a number of experiments made with the strictest care, and under the most favorable circumstances, and the conclusions he arrives at are almost diametrically opposed to those of M. Brown-Séquard.

He also operated on mice, rats, guinea-pigs, cats, and dogs. In performing his operations, however, he took a precaution which, of itself, it seems to me, should give greater weight to his results, and that is, the rendering his animals insensible to pain, whereby not only greater quiet, and consequently greater precision in the operation was secured, but also a very considerable diminution, if not an entire avoidance of the immediate shock of the operation, both of which are certainly great advantages. The evidence afforded by one or two of his experiments is so strikingly important, that I will give a brief notice of them. He selected, in one instance, a large, strong, and apparently very healthy tom-cat. After rendering him insensible, he cut down upon the supra-renal capsules, and to his great surprise found them very rough, and perfectly hard, like stone. Such was their condition, that he enucleated them with the greatest facility, no hemorrhage taking place, and apparently no injury of the surrounding parts, except the necessary laceration of the blood-vessels, lymphatics, and nerves immediately connected with the organs.

Further examination of the organs revealed an entire

disorganization of their normal structure, and its replacement by a deposit chiefly of carbonate of lime. The following morning, contrary to the confident expectations of Dr. H., the cat was found dead. A post-mortem examination gave no clue to such a result. Notwithstanding the most thorough search in the brain, spinal cord, thoracic and abdominal organs, and even the blood-vessels, nothing was found except the most trifling signs of peritonitis.

Here, then, was a case where death had followed very quickly the removal of the supra-renal capsules, and yet those capsules had been entirely incapable of function for a long time. In this case, certainly, death could not possibly be ascribed to the interruption of the functions of these organs, as M. Brown-Séquard infers was the case with his animals. Surely those functions were not essential to the life of this particular animal. Yet their removal was followed by immediate death.

The vessels were insignificant in consequence of the entire change in the structure of the organs; and, in the absence of any sign of other cause, Dr. Harley was forced to conclude that death resulted from laceration of the ganglionic system of nerves, whose connexions with the supra-renal bodies are very numerous. The cat was of a tawny color, but in regard to the occurrence or not of any change in this respect nothing was known, but his appearance and vigor were sufficient proof that no serious diminution of vital force had taken place.

In another experiment Dr. H. removed both supra-renal capsules from a piebald rat, at an interval of six weeks. The animal had a quick and apparently complete recovery, and became fat and healthy in appearance in a few weeks. Eighty days subsequent to the removal of the last capsule, the spleen was taken away, the blood of which was loaded with white corpuscles. The animal survived this last operation but a fortnight.

Here, again, an animal lived three months deprived of its supra-renal capsules, and most of the time apparently in the enjoyment of robust health; dying at last only after another severe and often fatal operation. Neither in this case was any change in color noticed.

Other experiments performed by Dr. H. in connexion with M. Philipeaux of Paris are even more decisive. They removed the spleen and supra-renal capsules from some young rats which, at the time of Dr. H.'s publication, nearly eight months subsequent to the operations, were still in his possession, alive and well, no change in color, or other sign

of altered function being apparent; and all this, not only in the case of albinos as objected by M. Brown-Séquard, but also in animals possessing color. M. Philipeaux himself states, in the *Gazette Hebdomadaire* for the 6th March, 1857, that he has in his possession two albino rats, three months old, who have been deprived of their supra-renal capsules for sixty-seven days, of their spleens for twenty-six days, and of their thyroid glands for seven days; the result of experiments made in reply to M. Brown-Séquard's objection that the office of the lost capsules might perhaps be vicariously performed by some other organ whose function is unknown, as the spleen or the thyroid body. He has also two rats, a male and a female, the former of which had lived four months, and the latter forty-three days after the removal of the supra-renal capsules, and which were still living without any apparent modification of their functions. The female, subsequently to the operation, became pregnant, and produced eight young ones.

These are but a few of the experiments made by these two gentlemen. I might bring forward many others which, though not quite so decisive, perhaps, as those already adduced, still bring strong proof to show that the functions of the supra-renal capsules, in the lower animals at least, are very far from being so important as M. Brown-Séquard believed.

In the *Gazette Hebdomadaire* for the 12th of September, 1856, there are published the results of experiments of a similar nature by M. Gratiolet, and in the numbers for the 21st November, 1856, and 2d of January, 1857, still other researches by M. Philipeaux.

Their conclusions, however, coincide with those of Dr. Harley.

Such is the testimony which physiological inquiry has brought to bear upon this question. What is its import? The following conclusions may, I think, be fairly drawn from the published results of these experiments:—

First. Nothing is proved by them except in regard to the species of animals upon which they were performed. It is well-known that the anatomical and physiological organization of many of the lower animals bears so close a resemblance to that of man, that often the study of the phenomena taking place in the human body may be materially aided by experiments upon the brute. But it is equally true that there are great varieties in the relative importance of organs, not only between man and beast, but in different species of the latter; so that what is in one an organ of high development

and great importance, in the other is of far inferior organization, serving hardly more than merely to point out the general plan upon which the different members in the animal kingdom are constructed. Recognising this fact, we should be very cautious in applying to the human organization conclusions drawn from experiments upon the lower animals in regard to an organ of the functions of which we are entirely ignorant. As regards the supra-renal capsules, their size and anatomical relations are such in the animals experimented upon, as to induce the belief that they are of equal comparative importance in them as in man. Consequently the evidence afforded by observations upon them may materially assist researches in other directions, but they never can decide the question.

Second. In several species of the lower animals, certainly in cats and rats, the functions of the supra-renal capsules are not essential to life. This, it seems to me, may be considered as an established fact, and for the following reasons: First, the different courses of experiments made to elucidate this point were carried on chiefly by four different observers, M. Brown-Séquard, Dr. Harley, M. Philipeaux, and M. Gratiolet, all men of high reputation. Of these four, three obtained results coinciding with each other in all essential points, which results all bear testimony to the truth of the above statement, while one only is led to the opposite conclusion. Second, in the progress of these experiments, the fatal results grow less and less frequent, until, at last, in many instances, none such follow, a fact which naturally gives rise to the impression that, in the earlier operations, they might have been owing, to some extent at least, to lack of experience and practice in the operator? Third, the facts established by the experiments of the three observers who obtained similar results are, so far as they go, definite and positive, while those established by the experiments of the fourth are purely negative in character.

The former prove that certain animals can live without any apparent diminution of health, or alteration of function, when their supra-renal capsules have been either destroyed by disease or removed by vivisection; while from the latter all that can justly be asserted is, that in certain animals the removal of these organs has, in a succession of instances, been followed by death, but whether in consequence of the loss of the capsules as such, or from some concomitant injury of the operation, does not appear. That the latter was more probably the case seems likely from Dr. Harley's operation upon the cat, whose capsules were found already disorganized with-

out having occasioned any apparent alteration in health, and yet death rapidly followed their enucleation.

Having now given a brief résumé of the results of inquiry into the question of the pathology of this disease, I would, before leaving it, make mention of a few facts which may aid in its decision.

One of these was mentioned to me by Professor Jeffries Wyman, of Harvard University. It is that in anencephalous fœtuses the supra-renal bodies are undeveloped, remaining of a most insignificant comparative size; and I find in Rokitansky's Pathological Anatomy, that, in such cases, other organs are frequently deficient. Again, cases are reported of complete absence of these organs. Rokitansky says "the supra-renal capsules are occasionally deficient, especially when there is a deficiency in other organs also."

In Jones and Sieveking's Pathological Anatomy there is a case mentioned of complete absence of these organs in a child.

In the *Gazette Hebdomadaire*, for the 12th of December, 1856, there is a letter from M. Martini, detailing a most remarkable and significant case of this abnormity. I quote the more important parts. "The subject of this observation had a fair skin; was married and the father of three children; was of sufficient strength to follow the trade of a carpenter. He died of phthisis at forty years of age." "At the autopsy, in the course of a thorough investigation into the state of the internal organs, with a view to a vascular injection, the supra-renal capsules were found to be utterly wanting. Notwithstanding the strictest search, not the slightest trace of them was to be found."

Now, is it possible that an organ which, in a perfectly developed human being, is essential to life, can be completely absent in an individual, and yet that individual live to a healthy maturity, with no evidence to show the existence of such a deficiency? Certainly, then, it would appear that the supra-renal capsules are not essential to life.

Reviewing, now, the entire subject, the important details of which I have attempted to bring together and impartially to discuss, the amount of definite knowledge thus far obtained, and the conclusion which may reasonably be drawn therefrom may, I think, be briefly summed up in the following words.

A peculiar and usually fatal disease has, within a few years, attracted the attention of the medical profession for the first time. Its symptoms are, principally, general debility, anæmia, feebleness of the heart's action, irritability of the

stomach, and, as an almost pathognomonic sign, a most characteristic discoloration of the skin. The most diligent and skilful examination can detect no adequate cause for these symptoms, against the increasing severity of which medical treatment seems wholly ineffectual.

The essential pathological condition of this disease is as yet unknown.

From a critical survey of the evidence bearing upon this point, laying especial stress upon those well-attested post-mortem examinations where complete disorganization of the capsules was found unaccompanied by any sign of bronzed skin, I think it reasonable to decide that there is no direct mutual dependence, as of cause and effect, between bronzed skin, with its accompanying symptoms, and a morbid state of the supra-renal capsules. Whether, in some cases, there be some indirect and less important connexion, arising out of the anatomical relations of these bodies, I do not undertake to say.

ART. II.—*Paralysis consequent upon the Poison of Diphtheria.* By JAMES B. REYNOLDS, M.D., Physician to the Demilt and the Northern Dispensaries.

DURING the past year paralysis, consequent upon the poison of diphtheria, has excited much attention in France, where many cases have been recorded: and also in the English journals a few cases may be found. Of this variety of paralysis in the city of New York, I have been able to procure the history of four cases:—doubtless a considerable number must have been observed, especially in the districts where diphtheria has prevailed to a more marked extent, than in that over which my observation extends. Diphtheritic paralysis is comparatively rare, but exactly how rare it is now impossible to say. In the report of the Epidemiological Society of London upon diphtheria, nothing is said about paralysis as a sequela, and it is to be inferred from this that it is by no means frequent. The following observations are based upon the histories of 77 cases of diphtheritic paralysis: about ten of which I have myself seen, either in foreign hospitals or in the practice of professional friends.

MM. Faure, Trousseau, and Lasègue were the first to call attention to the difficulty of deglutition and nasal voice, following membranous angina or diphtheritic sore throat; but

it is especially to M. Trousseau's clinical and written lectures that we are indebted for a thorough description of the local and general paralysis consequent upon the poison of diphtheria. In the histories of the many epidemics recorded in medical literature, cases have occurred in which we now recognise true diphtheritic paralysis, more or less marked. As early as 1748, M. Chomel records cases of membranous angina and paralysis following. M. Chomel thus terminates the history of one of these cases:—"The patient began to recover from the disease upon the forty-fifth day, having had, during the whole time, some trouble in expressing himself, speaking through the nose, and having the uvula flaccid." And again of another case:—"I learn that at the fortieth day of the disease the patient spoke much through the nose, suffered from strabismus, but convalesced rapidly." In 1749, during an epidemic observed in one of the departments of France, and when paralysis of the soft palate was of no rare occurrence, it was attributed to the intensity of the local inflammation;—in a report of one of these cases is the following, after speaking of considerable swelling of the glands:—"The child continued to speak through the nose; and the food, instead of pursuing its usual course down the œsophagus, returned by the nostrils, principally the less solid parts." In 1771, Doctor Samuel Bard, of New York, mentions a case of ulcerative angina, followed by aphonia, and muscular feebleness, which lasted over two months. In 1833 a well-marked case of diphtheritic or membranous angina, as it was called, entered the Hôtel Dieu of Paris. In this case, besides the usual throat affection, the diphtheritic membrane formed upon the surface of a blister, which had been applied for the throat affection. The paralysis came on about six weeks after the disease in the throat, and ran through the usual course of diphtheritic paralysis. The patient recovered in three months. The true cause, the relation between the membranous angina and the paralysis, was not recognised. In the winter of 1855, M. Trousseau treated a young American lady, who was then residing in Paris, for diphtheritic sore throat, followed in the course of two weeks by paralysis of the soft palate, regurgitation of liquids through the nose, voice altered, assuming a nasal tone, and at last becoming extinct. Paralysis of motion and sensation extended to the legs, mounted up the body, involving the upper extremities, the thoracic muscles, and even the muscular coat of the alimentary canal. To such an extent was the paralysis that, for over two weeks, she was nourished through an œsophageal tube. Constipation was obstinate. The mus-

cles of the bladder became paralysed, so that the urine was regularly drawn off. This grave condition gradually yielded. For four months she could not walk, and it was one year before she fully recovered. Her convalescence was much retarded by changing her residence from Paris to the damp climate of England; and so stationary was the disease while in London, that she was obliged to return to Paris, where she rapidly convalesced.

Symptoms.—There is a certain general course through which the paralysis runs, from that but slightly marked up to that which results in death. It always begins in the soft palate, either by numbness, loss of power of one-half or of the whole curtain; next amaurosis or strabismus, if the eyes are at all affected, always follows after paralysis of the palate, and before the extremities become involved. Deafness may follow amaurosis, then the lower limbs become affected, next the upper extremities, then the muscles of the alimentary canal and bladder, the respiratory muscles, and in some very rare cases the muscles of the heart. The paralysis may not be confined to loss of motion, for in a majority of cases sensation is either modified or lost. There are many cases recorded, where the disease has not gone on to loss of motion, the nerves of sensation only being affected; or in others, sensation being much modified, is associated with muscular feebleness. Very many cases have been limited to loss of power and sensation of the soft palate. The invasion of these different parts comes on slowly, gradually involving one limb before it extends to the other. But it is necessary to examine into each symptom more closely.

In most cases every trace of the primary disease has disappeared, the patient sleeps, eats, and digests well: yet many cases emaciate and a marked pallor overspreads the face; and if a child it may become irritable. This state lasts, as a rule, from two to three weeks, when the patient experiences some slight difficulty in articulating distinctly, being unable to pronounce the labial consonants, or the sense of taste at the back of the tongue is altered, and the voice may become feeble; but if the paralysis goes on, it is always accompanied by the *nasal* tone of the voice, and the regurgitation of liquids through the nose. Frequently the nasal voice and the regurgitation through the nose, are the first symptoms to call attention to the disease. If you now closely examine the soft palate, you find it hanging relaxed, and if it is pricked, there is no contraction of it, nor does it give the patient pain. Sometimes but one side of the soft palate is paralysed, which you recognise by its relaxed condition and

irregular outline, the uvula being drawn towards the sound side. These symptoms may continue a day or two, or they may entirely disappear, the disease extending no farther, or the eye may become affected, and when it does so, it always follows the throat affection, and precedes the paralysis of the limbs. The sight may become enfeebled, obscure; or the patient becomes far-sighted or near-sighted; or again, as in M. Trousseau's case, where there was myopia for fifteen days, then the vision became presbyopic. Amaurosis may be either partial or complete. The external muscles of the eye-ball also, in many cases, become involved, leading to different varieties of strabismus.

Amaurosis is not more alarming, even when it becomes complete, than any of the other symptoms, passing off in from several days to three months. There is one case recorded where there was total blindness for three months and recovered, leaving no indistinctness of vision. Though in many cases amaurotic eyes, consequent upon diphtheritic poison, have been thoroughly examined by the ophthalmoscope, and by the most competent oculists, no lesion could be found, except in the case recorded by Mr. Dixon of the Ophthalmic Hospital, London. In this case the vision became impaired first and more markedly in the right eye; could see better in bright light; and vision much improved with the convex lens. Examination by the ophthalmoscope showed the retina of the right eye somewhat thickened, and to be much better supplied with blood-vessels than that of the left side. Recovered in two months by sea-air and bathing, iron and quinine. Mr. Dixon had seen four cases of impairment of vision following diphtheria, similar to the above. As troubles of the eyes are not rare in disease of the kidneys, the urine has been carefully examined, and while in some cases it contained albumen, yet, in some of the most marked cases of blindness, and complete paralysis of both sensation and motion, no albumen appeared during the whole course of the disease. For the following case I am indebted to Dr. J. W. Ranney, of New York city.

Case 1.—S., æt. 11 years, an intelligent, active girl, during the month of January, 1860, had a well marked attack of diphtheria, the membrane covering the tonsils and extending up into the nares. The throat and tonsils were cauterized. Convalesced well. From twelve days to two weeks after the last vestige of the membrane had disappeared, it was noticed that she had some difficulty in articulating distinctly;—the voice soon assumed a nasal tone and liquids were returned by the nostrils. In the course of some days she found that

she could not see clearly, there was a haziness thrown over the field of vision, and about the same time her parents noticed that her eyes became unsteady, at times their axes not corresponding. There was a peculiar position given to the head when the little patient desired to see anything. These symptoms had lasted only a few days, when the lower limbs became affected; they were feeble, easily wearied, and not fully under the control of the patient. Sensation seemed to be affected but slightly. There was very great difficulty in ascending and descending stairs, and even while walking over level ground there seemed great indecision in the gait. The muscular trouble went no further. There was an annoying muco-purulent discharge from the nares. Tendency to constipation. The urine was somewhat scanty, but contained no albumen. Though the paralysis was but partial, yet the intellect was slightly impaired, she became simple and would laugh and cry easily. In two months and a half every vestige of the disease had disappeared. The treatment in this case was essentially tonic, plenty of fresh air and good food, iron, friction with stimulating liniments along the spine, etc.

Any disturbance of the organs of hearing is rare, and when there is either slight deafness or ringing in the ears, it occurs either before, or simultaneously with, the extension of the disease to the extremities. But paralysis, though total as far as the palate and vision are concerned, may extend no further. In the regular order of invasion comes the paralysis of the extremities; and of the extremities the legs are attacked the first. Only one patient was seen by M. Maingault, who has the records of forty-three cases, where the paralysis began in the upper extremities, and in this case the disease did not involve the legs; the paralysis of the soft palate was nearly well, having been treated by electricity, when feebleness, prickling, loss of sensation, and paralysis of motion of the hands first, and then of the arms took place. In M. Trousseau's wards, Hôtel Dieu, I saw the following case, where the hands and arms became paralyzed before the legs.

Case 2.—A vigorous, robust man, 24 years old two months previously, had been attacked by diphtheritic sore-throat; tonsils and pharynx cauterized, alum and chlorate of potass given; left hospital perfectly cured. Four days afterwards, while drinking, found liquids would return by the nose; the voice assumed a nasal tone. Returned to the hospital. He was and still is, obliged to swallow by very small quantities; no trouble with his eyes. Fifteen days after the soft palate became paralyzed, his hands became feeble, formication

about fingers, prickling of needles, unsteady, uncertain movement of his hands. This extended up until his arms became involved. He remained in this condition about fifteen days, the arms becoming only partially paralyzed, when his feet became affected in the same manner, the feebleness, formication, and numbness extending up the legs, so that he now walks very unsteadily and with considerable uncertainty. Paralysis of sensation has been as well marked as that of motion. The genital organs have lost their vigor, and there has not been an erection since the disease set in. The urinary organs not affected, no albumen, intellect good. The patient left the hospital before the paralysis had entirely disappeared, so that I was unable to follow up the case. The paralysis of the soft palate may have lasted but a day or two, or may have run its course and entirely disappeared when the patient experiences the first symptoms of its extension to the legs.

The sick one may attempt to rise from the bed and walk, and then finds, much to his surprise, that one leg is quite feeble or becomes easily wearied; or while walking he may feel that the movements of the leg are uncertain, and that he easily stumbles and falls; and again, he finds it impossible to ascend or descend stairs, or to walk over uneven ground. Or the commencement of the disease in the leg may simulate the crawling of ants, and this goes on until it is superseded by numbness, and this may be the extent of the disease; or the feebleness may go on to total paralysis. In the majority of cases the paralysis is not complete, but the movements are uncertain, and sometimes resemble those of a drunken man. When both legs are affected one is more markedly so than the other, but this applies especially to the upper extremities. In some cases the paralysis is so complete that the patient is unable to move even a toe, but generally some little time before it becomes so complete, the patient will complain of his feet being very cold, and no feeling of warmth is experienced even when the cuticle becomes blistered by heat. Also during the course of the paralysis, some complain of acute articular pain. I say nothing for the present about the modifications of sensation. During the course of the paralysis of the legs, if it is to extend, the same primary symptoms show themselves in the hands, fore-arms, arms, and shoulders. There is first feebleness, weariness, prickling, numbness, and eventually more or less marked paralysis, but as has been before remarked, the two sides are very unequally affected. The paralysis in many cases gradually progressing, involves also the muscles of the neck, so that the patient is unable to hold up the head, and also the muscles of

the trunk, and the muscles of the face. For the two following histories I am indebted to my friend, Doctor T. Galliard Thomas.

Case 3.—On the 18th of January, 1860, I was called to see Wm. Heffernan, a handsome, healthy-looking lad, of seven years of age, residing in a well ventilated basement in Eleventh street, between Third and Fourth avenues, New York. His mother stated that for a week past the boy had complained of great soreness of throat, difficulty in breathing and swallowing, and had suffered from pains in the back, limbs, and head, and from febrile action of a severe type. When I saw him, his pulse was quick, skin hot and dry, tongue covered with a thick fur, and there was great dyspnœa and dysphagia. Upon examination of the throat, both tonsils were found enlarged, and they, together with a part of the uvula, were covered with a pasty white effusion which could be scraped off with a little force by the nail. The breath was so offensive as to taint the atmosphere of the whole room. The treatment adopted was the use of the muriated tincture of iron in doses of ten drops every two hours, and the administration of the most nutritious diet—beeftea, wine whey, and whatever else of that kind he could be induced to take. He gradually improved under this treatment, and in ten days (about fifteen from his first attack) the membrane had cleared away, the tonsils diminished in size, and the symptoms all amended. He then left his bed, was kept as much as possible in the open air, made to exercise moderately, and to continue the iron. For two weeks he was regarded as well, when his mother noticed that he spoke through the nose, and after a day or so that all fluids regurgitated through his nose, so that of a mouthful of water he was able to swallow only a small part. Upon seeing him for this symptom, I found marked convergent strabismus (which had never existed before), and noticed that he held his head so far forward that the chin touched the sternum. He could not lift the head, and this, it struck me, was the cause of the strabismus. He had also become quite nearsighted, holding his head but about six inches from anything he was examining,—this was especially marked while eating. His movements were very uncertain and feeble, tripping constantly in his gait and dropping substances from his hands. The right leg was more markedly enfeebled than the left. For several days he complained much of pain just below the right knee joint, which pain was much relieved by friction: there was also pain along the back. Sensation did not seem to be affected. There was considerable irritability and pee-

vishness. At the present date, with the exception of the paralysis of the soft palate, which is disappearing, all these symptoms exist, and are, I think, slowly increasing, the general feebleness of the muscular system particularly so. The treatment adopted is of tonic nature.

A sister of the above, about four years old, nearly at the same time was observed to have the voice altered, having the nasal tone well marked. No regurgitation through nose, or strabismus was observed by the family, but she became deaf, and this deafness still lasts, but becoming less marked. The voice has resumed its usual tone, and with the exception of the deafness, she has fully recovered.

The following history, which I take the liberty to transcribe from M. Maingault's article in the *Archives of Medicine*, will show better the course of the paralysis of diphtheria than I have so far been able to do.

Case 4.—Boy, æt. 4 years, living at home, of good constitution, large and well developed, and never having had any serious malady, was attacked by high fever, with extreme difficulty in swallowing, August 1st, 1858. Upon the third day false membranes were observed upon the tonsils; there was little glandular enlargement, fever persisted. The points covered with membrane were touched with nitrate of silver, and this was repeated several times a day. For five days the false membranes persisted; but upon the sixth day the throat was entirely cleared. There was no discharge from the nose. Neither leeches nor blisters were employed. The child was convalescing. Some days passed without anything particular to note, when suddenly the voice assumed a nasal tone, and liquids were rejected by the nose, while solids were swallowed without difficulty. In spite of this complication, the little patient regained his strength: there was some appetite, and the digestion was good; little by little, the nasal voice became less marked, and the deglutition of liquids easier. But, in spite of a tonic regimen and of assiduous attention, and though for fifteen days the sore throat was cured, yet the child became more and more feeble in the legs, falling frequently, and walking with an unsteady, tottering step. This feebleness increased daily; soon the child could walk but a few steps, and that by holding on to the furniture; there were pallor and emaciation.

Sept. 7th. The feebleness was so marked that he could not stand upright, and if left without support he would sink down in a mass; sitting or reclining, it was with difficulty that he could move l 's legs. The skin was flabby; anæsthesia was so complete in the lower limbs, that they could

be tickled and pricked without the patient being conscious of it; upon every other part sensation was normal. Child easily moves the arms; no strabismus; face pale, a little bloated; appetite diminished, deglutition easy, and only at rare intervals do liquids return by the nose; soft palate contracts well; obstinate constipation; pulse 60, feeble, compressible; no bruits in the vessels of the neck; urine does not contain albumen. (Iron, quinine; frictions with flannel impregnated with vapor of benzoin; sulphur bath every two days.)

Sept. 16th. (One month from the commencement of the paralysis.) In the lower limbs the troubles of sensation and motion, the same as stated above, but the hands and arms seem to participate in the feebleness of the legs; there is some tremulousness; sensibility diminished; continue same treatment.

Sept. 22d. Same weakness in the legs, but feebleness of the arms much increased; it is only with great difficulty that the patient can raise his arms to his head, using his hands with reluctance; he does not desire to play, and if he takes his playthings, they immediately fall from his hands; he cannot feed himself. The head reclines upon the chest, can be lifted, but immediately falls again. There is the most profound insensibility in the arms, back, and chest; tickling and pricking causing no appreciable effect. Face is not affected; no strabismus; sight seemingly not enfeebled; but little appetite; same obstinate constipation.

Oct. 2d. One month and a half. The state of the patient is a little better; the legs are less feeble, can stand upright, and take a few steps; uses his hands somewhat easier, but no sensibility.

Oct. 10th. Strength returning; can remain long time upon his legs, but his walk is difficult, dragging his feet along the ground; the arms have recovered their action, the head is held up quite well, but insensibility persists. From this period the troubles gradually diminished in intensity; but in order to hasten the recovery, electricity was attempted to be used; but on account of the great alarm it produced, it was renounced; sensibility was found obtuse, but contractility was normal. Convalescence continued; the strength returning; walking better; but the emaciation continued, and appetite poor; pulse 50, and feeble; no bruit in cervical vessels.

Nov. 24th. (Over three months.) Sensibility still obtuse in feet and hands; child can take quite long walks. Patient was seen for the last time in the month of March, seven

months from the commencement of the paralysis; pallor persists; embonpoint not yet returned, such as it was before the attack of diphtheritic angina; appetite capricious; becomes easily fatigued; but there exists no symptom of the paralysis.

When the paralysis involves the muscles of the face, which it does in rare cases, its expression is quite altered, the lips hanging flabbily, and the saliva running out of the corners of the mouth; and as one side or set of muscles are generally more affected than those upon the opposite side, the expression given to the face is sometimes hideous. Under these conditions the tongue is often tremulous. When the paralysis extends still farther, the alimentary canal and bladder become involved, and though not always, yet generally they are affected together. When the muscular coat of the intestines becomes paralysed, there follows obstinate constipation; there is no desire to go to stool; and the fœces, at least those in the lower part of the rectum, escape involuntarily, in little masses; and if the bladder is affected, the urine dribbles away, drop by drop. One case is recorded where no action of the bowels could be effected within twenty-three days. In the following case, related by M. Maingault, both the bladder and the rectum were paralyzed.

Case 5.—A curate, 55 years old, had but a slight attack of diphtheria, the false membranes having disappeared upon the ninth day, about which time the voice became altered, and the act of deglutition became difficult. Upon the tenth day after the cessation of the primitive disease, the curate was suddenly taken with a very painful constriction running around the lower part of the chest, the pain irradiating into the left arm, resembling an attack of angina pectoris. (Opium pills and local applications.) These symptoms were but of short duration, but they were the precursors of graver phenomena. He experienced prickling in the toes, which extended up the legs. When the skin was pinched, the sensibility was found to be notably diminished; there was feebleness of the lower limbs, then difficulty in standing, then in walking, and at last even to cross the legs in bed. Nearly at the same time the prickling was felt in the fingers and arms; he could no longer take hold of objects, or keep them in his hands, without their seeming to slip from him. There was no pain along the spinal column, nor was there any produced by pressure. These symptoms attacked also the intestines and the bladder, depriving him of the desire to void either the bladder or the rectum, the latter moving only by the aid of brisk purgatives. The bladder emptied itself

but incompletely, and over its sphincter he had no control. These symptoms lasted nearly three months; and it was nearly five months before he completely recovered.

This case shows how slight may be the primary disease, and yet how serious may be its sequelæ. The genital organs do not escape, as is shown in a case already related; in fact, in some men, the venereal passions and the virile powers do not return until some little time after all the other symptoms of the paralysis have disappeared. It is exceedingly rare for the respiratory muscles to become implicated. Contractions, cramps, or twitchings of the muscles are also very rare. In those cases where the limbs are flexed, there is apt to be pain in the joints, and much pain is given when forcible extension is made. Fortunately, it is very rare for the muscles of the heart to become implicated; and in those cases where it occurs, it is shown by a slow, feeble pulse, palpitations, or tremulous, fluttering contractions of the organ, and cold extremities, with pale cool skin. Often abnormal bruits are heard in the vessels, especially in those of the neck. Some cases have been attended with a slight cough and expectoration of fœtid mucus, if the pharyngeal muscles were not totally paralyzed. From the impoverished condition of the blood, the extremities sometimes become slightly œdematous, but there are no cases recorded where there was general anasarca.

So far in the minute description of symptoms I have confined myself to those involving the motor system; but some of the very earliest symptoms, as well as those of the highest interest, are connected with more or less modification of the sensory system. There may be paralysis of motion and no alteration of sensation; this may occur in a limb, or in the soft palate,—as can occasionally be shown in cases where there is the nasal voice and some regurgitation of liquids through the nose, by pricking the soft palate, sometimes it will cause nausea and pain, though with regard to motion it is perfectly paralyzed. In fact the prickling sensation in a limb is frequently the first symptom to indicate that it is invaded. Many cases occur where the soft palate is paralyzed—both motion and sensation gone—while the disease in the limbs is confined to some modification of sensation, either prickling, formication, or anæsthesia more or less complete, but the motor power remaining normal. In some patients where there is complete paraplegia, sensation is not equally perverted on either side, there being anæsthesia of one leg and hyperæsthesia of the other; but these extremes are more apt to occur where the paralysis has invaded the system to a

more marked extent, when there may be more or less loss of sensation of the legs, while along the spinal column the sensibility of the integument is heightened. In exceptional cases where the paralysis of motion is nearly or quite the same in both legs, sensation may be altered in but one. When the sensibility of a limb is increased, the patient may, in rare cases, complain of more or less pain in or around the joints. In those cases where the disease of the limbs is confined to modification of sensibility, the power of motion being perfectly normal, the patient walks with the sensation of the feet and legs asleep, or, he may "seem to walk in the air, not feeling his feet touch the ground." The impairment of sensation and motion may, as I have said before, confine itself to one limb or only one side—partial or complete hemiplegia—or to the lower half of the body—paraplegia, or again, there have been cases where the right leg and the left arm were paralyzed. M. Trousseau relates the history of a female attacked with diphtheritic paralysis, where it was not confined to, or stationary in, one limb or side, but changed from day to day from one limb to another; but was there in this case no hysterical element? In one case where the paralysis was confined to the soft palate, there was for some time most obstinate hiccough; whether this was merely accidental, or whether the diaphragm became involved, more extended observations only can decide.

With regard to the mind, it is but rarely affected, and in these exceptional cases the mental powers seem to act lazily, slowly, and the memory seems for the time being to be a little impaired, surrounding objects and passing events making but a slight impression, and are soon forgotten. In the case of Dr. Thomas there is marked irritability; in that of Dr. Ranney the mind was simple, enfeebled. There is never any fever, in fact the skin is apt to be too cool, and the feet are frequently cold.

Diagnosis.—During the last ten years cases of paralysis have been observed following many of the grave acute diseases, as typhoid fever, dysentery, varioloid, &c., and these are now recognised as not consequent upon any lesion in the brain, or spinal cord, but from the impoverished condition of the blood acting upon the nervous system. The same may be said with regard to that variety of paralysis in children, resulting from the irritation of dentition, or the impoverishment of the blood from prolonged diarrhœa, &c., yet the paralysis consequent upon the poison of diphtheria has been confounded until the last few years, and it is sometimes still confounded with that following the above-named diseases.

When it has been confined to the throat, on account of the change in the voice and regurgitation of liquids, it has been supposed to have resulted from syphilis. In females it has been taken for hysteria—the case related by M. Trousseau, where the paralysis changed day by day from one limb to another, seeems at least to have been modified by, or complicated with, hysteria. In other cases again it has been mistaken for general progressive paralysis, consequent upon some essential lesion in the great nervous centres; and also with idiocy, from the difficulty of articulation, nasal voice, pale, sad, and sometimes stupid expression of the face, the unsteady, tottering gait, and frequent falls. Other cases have been attributed to tubercular diseases of the meninges of the brain. But the period of its occurrence, and the regular progressive order of its symptoms, will generally distinguish it from paralysis following other diseases.

The prognosis is favorable. Of the seventy-seven cases that I have examined there were nine deaths recorded. In two, death was caused by masses of meat entering the larynx, and plugging up the trachea. One died with convulsions, one with kidney disease, one from starvation, and the other from depression of the nervous force, seemingly in an attack of syncope—in one of these four there was a low grade of delirium before death. In all the deaths autopsies were obtained, except in two of those in which death resulted from extension of the paralysis. In the two which seemed to die from syncope the lungs were somewhat congested; in one the kidneys were violently congested, while they were perfectly normal in the one that was slightly delirious previous to death, also in this one the heart was large and the blood in it was very black and liquid. All other organs were healthy in both. As the two following cases were observed closely, and all the organs carefully examined after death, I must be pardoned for giving a condensed account of them. The case dying with convulsions is taken from the thesis of Dr. Millard, Paris, 1858.

Case 6.—Josephine C., æt. 9 years. Six weeks before entering hospital had diphtheritic sore throat, which lasted 10 days, was treated by emetics, and throat cauterized with nitrate of silver. Following the throat affection came the usual string of symptoms; the nasal voice, difficulty in swallowing, especially liquids, which returned by the nostrils, general feebleness, rendering standing upright and walking uncertain and painful. The sight was enfeebled, so that she could not thread her needle; she became sad; but little appetite; no fever; a

slight cough. When the patient was closely examined, the voice was found strongly nasal, paralysis of soft palate complete, but its sensibility was still preserved, for when it was tickled, vomiting followed; deglutition slow and difficult, some drops of liquid returning by the nose, and the sight was markedly enfeebled; the pupils small and contracted; strength of hands and arms diminished, also partial paraplegia; sensibility normal; no albumen. Treatment—tonics. The patient remained in this condition for 6 days; but at the end of this time, while in the chapel attending vespers, she was attacked by some cerebral accident, at first seeming to those around her to be a fainting fit; there was no cry or convulsion. When visited one hour afterwards by the interne he found her in the following condition: decubitus dorsal; face red; intense headache; strabismus; skin hot; pulse 128, strong and full; intelligence good; no contractions of limbs; no convulsion; no additional paralysis; voice had the same nasal tone as previously; cough hard; no pulmonary physical signs. Treatment—hair cut; four leeches behind each ear; purgative enema; flying sinapisms over lower extremities. During the night she had general convulsions, with much agitation and piercing cries; the enema had acted abundantly. Convulsions ceased by morning. The day was passed quietly, but towards evening she became cyanosed, the extremities became cold; she died 24 hours after first attack, but not convulsed; the intelligence remaining good until death. P. M.—Brain perfectly healthy; no effusion into ventricles or between membranes. Spinal cord was carefully examined, and was found perfectly healthy; some tubercles in the lungs and bronchial glands; *kidneys healthy;* all the remaining viscera normal.

The case of death from albuminuria occurred in the practice of M. Trousseau.

Case 7.—Male, æt. 25. Had ordinary attack of diphtheria; upon 7th day albumen appeared in the urine for the first time; upon the 17th day, the false membrane had entirely disappeared from the throat, and albumen began to diminish in quantity, but the soft palate became paralyzed; face became puffy; pallor general; limbs became feeble. On the 24th day of the disease, the feet and ankles became œdematous, and upon the 29th symptoms of pulmonary œdema supervened, which gradually increased until death. Albumen, in enormous quantity, forming a nearly solid mass by heat and nitric acid. For five days previous to death could not swallow, speak, or expectorate; died upon 37th day. Autopsy 36 hours after death—Brain healthy; considerable œdema of lungs; kidneys much altered, but not sufficiently so to account

for death; the cortical substance was pale, and the tubular portion much injected, and the two parts were easily separated the one from the other.

The ninth death, that from inanition, occurred in a woman 40 years old. Paralysis pursued the usual course, except that the muscles of the œsophagus became so involved that she could not swallow before the paralysis of the extremities became complete, that upon the right side the more aggravated. She was nourished for some time through an œsophageal tube, but the muscles of the lower jaw became contracted so strongly, and the nasal aperture was so small, that it was impossible to introduce the tube. As she could swallow a few drops at a time, she was kept alive for three months, but at last sank from exhaustion. P. M.—All organs healthy except the apices of the lungs, where a few crude tubercles were disseminated.

Cause.—Bretonneau considered the paralysis following diphtheria was due to the extension of the false membrane up through the nasal fossæ, and especially the change of the primary acute diphtheritic disease into the chronic; but this explanation is quite untenable.

There have been well marked cases of diphtheritic paralysis where the primary affection was very light and where the false membrane was quickly removed; in one case it lasted but four days. Albumen has been assigned as the cause of the paralysis, but in the majority of the cases, though daily examined for, none could be found, either during the acute primary disorder or during the subsequent paralysis. Then again albumen has been said to be closely associated with the amaurosis of diphtheria, but facts disprove it. The following is the condensed account of an interesting case related by M. Sée, of the Hospital of Sick Children, Paris.

Case 8.—Madame X., æt. 33, after watching through many nights two of her children, one of whom died of diphtheria, was attacked fifteen days afterwards with the same disease. For fifteen days the false membrane persisted upon the tonsils and uvula, and also an ichorous discharge from the nose, excoriating the lips. But little glandular enlargement; but there existed a pain excessively intense beneath the right tonsil, resisting all remedies brought to bear upon it. From the commencement of the disease she began to grow feeble. The urine was examined daily throughout the attack, but never contained albumen. Twenty days after the commencement of the attack, soft palate became paralyzed. Though very feeble, could sit up, and she even visited her physician,

complaining of prickling of her feet and complete absence of sensation of the lower limbs up to the knee; the insensibility was so marked that sparks of electricity could be drawn from the soles of the feet, the patient not being conscious of it. At the same time she complained of symptoms of amaurosis, and this became well marked. M. Sichel, the eminent oculist, examined her eyes with the ophthalmoscope, but no appreciable alteration could be discovered. He advised two flying blisters to nape of neck and tonics. The amaurosis lasted over one month. The troubles of sensation and motion increased in the limbs, and also invaded the upper extremities. Her pallor and emaciation became extreme, but at no time could an abnormal bruit be heard either over the heart or in the vessels of the neck. Albumen constantly watched for but never found. Madame perfectly convalesced in five months.

Paralysis of the soft palate was at one time supposed to be caused by cauterization of the throat, but many cases have occurred where the throat was not touched. I do not know that I can give the present opinion better, as also the former and present teaching of M. Trousseau upon the cause of paralysis of diphtheria, than in the words of the Paris correspondent of the *London Medical Times and Gazette.* "The palate and pharynx being more usually affected with paralysis than the system generally, M. Trousseau was for a long time under the impression that the loss of power was dependent on inflammation of the coats of the nerves supplying these parts, and on infiltration producing pressure on their motor muscles, and this opinion he even ventured to publish in the Archives of Medicine some eight or ten years ago; but he now believes that loss of power and sensibility is the direct consequence of the diphtheritic poison acting generally on the system and strangely modifying the blood."

Treatment.—The treatment of these cases can be summed up in a few words; in fact the disease will, in time, get well of itself. Tonics, as iron, quinine, good food, and good air, with sea-bathing. In some cases sulphur baths have acted very satisfactorily. Frictions to the spine, also currents of electricity applied along the spine and over the paralyzed limbs, have given much satisfaction. Some of the special nervous stimulants are highly recommended, as strychnine and nux vomica. It is the opinion of M. Trousseau that to do any good with strychnia it must be pushed up until it produces some itching of the skin (of the tinct. nux vomica he gives from five to ten drops daily), and he thinks that under their use he has found the appetite to increase and the diges-

tive organs to recover their wonted tone. Sometimes, from total paralysis of the muscles of deglutition, and also from fear of the introduction of foreign bodies within the trachea, it may be necessary to introduce the food through an œsophageal tube.

67, West 44th Street.

Art. III. *Transactions of the Kings County Medical Society.* Prepared by a committee of publication.

Treatment of Artificial Anus.—Dr. Minor briefly reported his experience in operations for artificial anus, having operated five times, one of which was successful. The main point in regard to his cases differing from others, so far as he is aware, was the means of dilatation used. In the case which resulted successfully he used an *india-rubber finger-ball*, which he introduced in a flaccid state, and then stuffed it with cotton, until the proper degree of distension was attained. He thinks well of this as a dilator of the sphincters of the anus and vagina in other cases; particularly in stricture. The ease with which it can be introduced, and, on removing the cotton, withdrawn, obviates a great amount of suffering, which is, to say the least, an essential point promotive of recovery.

Dr. Isaacs recurred to a case operated on late at night where the occlusion was nearly two inches up. After trying various expedients to keep the intestine open and dilated, he resorted to the means adopted by Dr. Minor; by this and close attention, the child lived ten months. Taking all the circumstances into consideration, he thinks that when the incision has to be much extended, or to be made high up, it is better not to operate. Dr. Minor adds, that unless he is certain that there is total absence of the sphincter, he thinks it worth while to operate, no matter how high up the occlusion; and that absence or presence of sphincter fibres should be deemed the main point for determination.

West India Fever.—Dr. Isaacs reported a case of West India fever which was of severe type, and treated accordingly. He gave ipecac ʒj, which produced free emesis; followed it by 15 grs. calomel, which proving insufficient, he followed it up by 25 grs. more, when he had free bilious purging. Then administered quinine in large doses, ʒj in 24 hours for two days, and the patient soon after got well.

Spinal Meningitis, with General Paralysis.—Dr. Bell reported the following case: A gentleman of sanguine tem-

perament, æt. 39, merchant, came under treatment July 14th. His countenance indicated tolerable health; and not knowing what to expect in his case—having heard nothing of it until called to see him—was surprised to find that, on attempting to shake hands, he showed little or no muscular power in his fingers, extended his hand awkwardly, with fingers irregularly arranged, as persons sometimes do in chorea, and soon learned that in this particular both hands were alike, and that he was so weak in his lower extremities that he could not rise from his chair without assistance. On attempting to walk, he was likely to topple over, having no power to hold himself up, or to catch, in order to save himself; was only able to scratch anything in his reach, without the power of laying hold of it.

He stated that this condition had been gradually growing upon him for two months, and that it succeeded a *malignant sore throat*, with which he was affected in February last, while residing in New Orleans. With this sore throat he had excessive aching in his back and extremities, from which he had not since been entirely free, and that his throat still felt dry and disagreeable. He was at first encouraged to think that time would wear off this condition; but on its getting worse his physician in New Orleans advised him to a change of climate. He therefore came on here, but still felt himself growing worse. His intellect was perfectly clear, and every part of the surface of his body supersensitive. The muscles of his extremities were a little flabby, and the surface rather colder than it ought to be; otherwise there appeared to be no departure from the healthy state.

On examining his spine, discovered tenderness on both sides of column, between the scapulæ, and also in the lumbar region. This tenderness he was not previously aware of.

Digestion good, and nutrition but little impaired; had a good appetite, and could "eat anything;" but deglutition was a little painful. On examining his throat, found whole surface to be preternaturally smooth, and the left side of the palate and fauces so swollen, as to give the throat a one-sided appearance.

His urinary function was rather irregular; he sometimes forgot to pass his water, and was apprised of it by pain in his bladder. At such times he found it hard to start; had no other difficulty; thought, however, upon the whole, he passed more water than he used to, and that he had sometimes noticed that it was very strong. The urine appeared normal, and subsequent examination proved it to be so.

The treatment adopted was, at first—mercurialization by means of small doses of calomel and Dover's powder, irritation over the spine by croton oil, and chlorate of potash for the sore throat.

At the end of a week he had a coppery taste in his mouth, but no ptyalism; the chlorate of potash being continued, and the calomel powder left off. He was then put upon iodide of potash, with tincture of nux vomica. After three weeks' continuance, the irritation over the spine was allowed to subside, and on examination the tenderness at first complained of had disappeared, and, throat being well, the chlorate of potash discontinued. There was, however, no increase of strength, though he was now free of pain.

Continued the iodide of potash, seven grains three times daily, and, instead of the tincture of nux vomica, directed strychnia, a twelfth of a grain twice daily. Also, added electro-magnetism, to be used fifteen minutes at a time, twice daily, applying the directors over the muscles of the extremities; and advised a systematic course of exercise—that he be assisted to walk, and to direct his extremities accurately towards the object aimed at—demonstrating my advice by aiding him to walk on the seam of the carpet, and by assisting him to hold his pen in frequent efforts to write. These directions were faithfully carried out by the assistance of a devoted wife.

The strychnia was continued one week, the dose having been increased to the eighth of a grain, when, showing evidence of potency, it was discontinued. For the next two weeks, the iodide of potash, electricity, and training were continued. Meanwhile, he rode out several times, had rapidly gained the use of his limbs, and needed no further direction than his own will in their use, only feeling it necessary to be deliberate in his movements.

All medication was now left off, and on the 10th inst. he called to take his leave, being about to return to New Orleans. As evidence of his agility, he, on the day before, jumped on the ferry-boat after it was several feet from the wharf.

Case of Version.—Dr. Johnson detailed a case of version in which he delivered a living child weighing twelve pounds after the membranes had been ruptured for nearly an hour. The patient was in labor with her fourth child, all the other deliveries had been natural and quick. She was but twenty years of age and weighed over 200lbs.; her limbs were covered with immense varices, and the abdomen also was

completely covered with the varices, and the lower portion of the abdomen lay over the mons veneris so as to cover it. Dr. Davol, who saw the case, in consultation remarked that he had never seen such a varicose condition of the abdomen, or such a development of adipose tissue. The nurse stated that when the membranes ruptured there was an unusual amount of water discharged. On examination, the hand of the fœtus was found presenting with the palm upwards towards the symphysis pubis. Dr. Davol was called in and the patient placed under chloroform. Dr. Johnson succeeded in bringing down the right leg with considerable difficulty, as strong uterine contractions came on, notwithstanding the patient was completely under the influence of chloroform. The right foot was brought out from the vulva, and then with some difficulty the left leg was brought drown. Hemorrhage occurring freely, rapid delivery of the child was effected. As the delivery of the child had taken more than an hour, and the child was perfectly livid and swollen, it was thought to be hardly probable that it could be alive. As the mother was flowing freely the child was laid aside and the cord not even tied, or the child wrapped up.

Some minutes afterwards the child gave a faint gasp, and then by rapid plunging from cold into hot water, and allowing it to bleed freely from the navel, it rallied. The placenta was adherent partially, and as Dr. Davol remarked, so soft in texture as to hardly bear its own weight without tearing.

The case was of interest from the probability of the presentation having been caused by the rapid discharge of so large an amount of water, from the immense varices of the abdomen, and the immense corpulency of the patient, and the delivery of so large a living child after so long a rupture of the membranes. The case progressed without a single unfavorable symptom, and both mother and child are doing well.

Case of Contused Wound of the Vulva.—Dr. Isaacs reported the following case:—I was called on the 28th of September, at 11 P. M., to see Mrs. H—, a woman about thirty years of age, and of rather feeble constitution. The history of the case was obtained with great difficulty, but I afterwards ascertained that the injury was produced by a kick from her husband. I was informed that, on the receipt of the injury, there was immediate and profuse hemorrhage, from the vagina, the blood pouring out in a stream, as I was told, "like water from a Croton hose pipe." It was estimated, by her female companions, that she had lost two quarts of blood. This was doubtless greatly exaggerated. I observed, how-

ever, large quantities of blood upon the floor, and many cloths completely saturated with blood. On examining the patient, I found the countenance very pale, the pulse frequent and feeble with great prostration, and some pain in the injured part. It was difficult to introduce the finger into the vagina, the external parts were of a dark purple color, from extravasated blood. I could feel inside the vagina, a tumor as large as a hen's egg, formed by blood extravasated under the mucous membrane, and on the other side a smaller tumor of similar character, but situated higher up. could also feel a rent or fissure, in the left side of the vagina, extending from the commencement of the external orifice to a point as high as I could reach, and from this point could feel the blood slowly but constantly escaping. On removing the finger, and wiping the external parts clean, the blood was seen running down over the skin, in a stream as large as a crow quill, and of a very bright red color.

As it was impossible, in any way, to see the source, or point, from which the hemorrhage came, and indeed, even very difficult to feel it, I immediately proceeded to plug the vagina very completely with cotton batting, which happened to be at hand; then applied a compress, and retained it over the vulva, and a firmly drawn T bandage. The patient being much prostrated, I gave her small quantities of brandy and water, from time to time. I left at 12 o'clock. At 1 A. M. I was again sent for, and was told that she had bled profusely, and was dying. On arriving at the house, I found that her pulse was exceedingly feeble, sometimes scarcely to be felt; great restlessness, sighing breathing, constant efforts to vomit; could not retain the brandy and water; face deadly pale; voice a mere whisper; and, indeed, I should not have been surprised if she had then expired in my presence. On examining the parts, I found that the blood had soaked through all the cotton, with which the vagina had been plugged, through the compress and bandage, and that a stream of blood, nearly as large as that which I had at first observed, was slowly escaping from the vagina. I instantly removed every thing. I had taken with me a vial of Squibb's persulphate of iron; I diluted this with about six parts of water; I took a mass of patent lint, as large as a pigeon's egg, saturated it thoroughly with the iron solution, and quickly introduced it up the vagina, by means of a placenta forceps, passing it up as far as I could reach. A similar mass of lint saturated with the iron, was also introduced as far as possible, after which, it was found that the vagina had contracted so closely as to render it impossible to introduce anything more.

I then waited for some minutes, and found that there was not the slightest sign of any hemorrhage, when a compress and bandage were applied. The head was kept low, the inferior extremities slightly raised, brandy and water, and afterwards beef tea were given, in teaspoonful doses, frequently repeated; mustard plasters to the epigastrium, &c. She continued in a very feeble and exhausted condition, for several days. It was necessary to draw off the urine by a catheter, several times a day, for about a week. The patient slowly and gradually recovered, and on this day walked a distance of a quarter of a mile to the ferry, on a visit to her friends, in New York. I do not doubt, if the hemorrhage had not been instantly and permanently arrested by the persulphate of iron, that this patient would inevitably have died, for I believe that the loss of one or two ounces more of blood, would certainly have turned the scale in favor of a fatal result.

Epidemic Cholera.—Dr. O. H. SMITH read a short paper upon cholera. The only point of interest that he wished to bring before the Society was the early treatment of the disease by brandy injections. This treatment was tested by him in the Cholera Hospital during the epidemic of 1854, and he speaks of its efficacy with great confidence.

Thirty-six patients were brought into the Hospital at different times, some in collapse, and some dying. But twenty-eight were really cases that could be treated at all, the others were too far gone. Some were treated in accordance with the popular notions of eminent writers upon the disease, and some were treated exclusively with brandy injections, two to three ounces diluted, repeated after every discharge, and in no instance did it fail to arrest the rice water-stools.

Dr. S. made a number of autopsies and noted the lesions in the mucous membrance and Peyer's glands. His conclusions were: First, That brandy exerts a decided influence over the cholera poison, and when administered by enemata and by the mouth, rarely failed to control the watery evacuations. Second, Early in the disease, and through all the stages of collapse, there is a perceptible lesion in the mucous membrane of the whole alimentary canal, more marked in the colon, the elliptical plates are elevated, and the mucous membrane more vascular. Third, If the watery dejections are arrested early in the disease, reaction will be rapid, and the patient will recover without much constitutional disturbance; but if the patient passes into collapse, reaction will be slow, and he may recover with consecutive fever, or he

may die with softening of the more vascular organs of the body, and ulceration of the mucous membrane of the colon—lesions produced most likely by want of a proper nutrient element in the blood.

To restrain the rice water stools I have ordered an enema containing two or three ounces of brandy, and about twice the quantity of strong green tea, to be repeated after every discharge. At the same time, I have ordered a soft pill containing quinine, calomel, and camphor, each one grain, every half hour; brandy in lemonade, given freely hot or cold, just as the patient preferred it; the whole abdomen being enveloped with mustard plasters the full strength. In a very short time the evacuations become less copious, and soon are entirely arrested. At this point I would rest, and treat symptoms as they would arise. This was the general plan of treatment.

A few patients were treated upon different principles, according to the popular notions of different writers upon the disease. Spirits of turpentine in large and in small doses was administered by the stomach and by the rectum, but it seemed to have no control over the watery dejections. Sulphuric acid was prescribed, but I could get no good result from its administration. Strychnine was given to a few patients, and it possibly had some effect in postponing the period of collapse, but I think it had no control over the watery evacuations. I gave this remedy because others had given it, who believed the choleraic poison to act especially upon the abdominal ganglionic nervous centres, but its effects were such that I put it down as a doubtful, as well as dangerous, remedy.

I gave a few doses of the sub-nitrate of bismuth. This remedy appeared to have no power over the cholera discharges, but it relieved to a considerable extent the retching and vomiting so constant and distressing after these discharges had been arrested. The result of this varied and speculative treatment was such, that I was obliged to return to the brandy treatment, with the quinine, calomel, and camphor. This water is poured out by the mucous membrane of the whole alimentary canal, I don't know whether by exosmosis, transudation, or by some sort of inflammation of the mucous membrane, but, practically, we all know that this lesion or condition of the mucous membrane must be changed in order to save our patient. And the most efficient remedy I know of to do this is *brandy*. I don't know whether by its stimulant, or sedative, or astringent property, or all these properties combined.

Patients would be brought into the Hospital with very large watery evacuations every ten or fifteen minutes, brandy and water was thrown into the colon by a syringe, and repeated after every discharge, after which the patient would rarely have more than from two to four evacuations. At the same time brandy and water was administered by the stomach.

The *exclusive* brandy treatment was tried upon a number of patients to test its power or control over the watery stools, and in no instance did it fail to arrest them. In private practice its effects were quite as decided.

Opium I consider a doubtful remedy early in the disease, and productive of more harm than good, by its direct effects upon the brain. It may be given for pain, and more particularly after reaction. The cramps in the extremities are best relieved by dry friction to promote a better capillary circulation. The blood has lost a large portion of its serum, and does not find its way to the extremities, hence cramps from a want of natural stimulus.

The lesions of cholera depend much upon the duration of the disease, and the circumstances causing and attending death. Those that die in collapse present merely a softening of the mucous membrane of the whole alimentary canal. In the colon the mucous membrane is congested, and the *elliptical plates* are slightly elevated. Those that die after reaction present lesions of more interest. In two cases the spleen was very much enlarged and softened. In another case the liver was softened and partially disorganized. These conditions were probably accidental, and did not belong to cholera alone.

But the mucous membrane of the colon was very vascular in all cases, and in the ascending portion presented marks of inflammation. The elliptical plates were very much elevated, and frequent patches of ulceration were seen extending through the mucous membrane. One woman in whom reaction had been complete, and was convalescing until the fourth or fifth day after reaction, aborted and died. Upon examination, I found the mucous membrane of the colon considerably injected, the descending portion showing appearances of an ordinary muco-enteritis, while the ascending colon presented many patches of inflammation. These red patches were the elliptical plates, and around them were evident marks of inflammatory action.

Whether or not cholera depends upon too much or too little azote in the atmosphere, or upon too much or too little electricity, or upon fungi, or whether it is of zymotic or

cryptogamic origin, I leave entirely with scientific men, but experience teaches us that if we are alike exposed to its influence during an epidemic, we are not equally open to its invasion. Nurses in cholera hospitals are exposed as much as any persons can be, but they are not afraid of the disease, they live on a good substantial diet, and they rarely take the disease. In the same ward a relative will nurse a relative, he is all anxiety, he can't eat, or sleep; he is almost sure to take the disease. This was the case under my own observation. An old man, just arrived from Germany, was brought into the hospital, and in a few days died. Three sons alternately sat up with him, and they were all seized with cholera, and all recovered. None of the regular nurses sickened. Two domestics that washed for the hospital took the disease, and both recovered. They had been accustomed to a miserable diet, they worked hard, and confessed they were afraid of the disease. Such are almost sure to take it. Fear will certainly help to produce cholera. Any great disturbance in the nervous system may be put down as a predisposing or exciting cause of the disease. Patients suffering from intermittent fever are especially open to the disease. In Kings County Hospital, during the epidemic of 1854, cholera attacked nearly every case of intermittent in the building, and most of them died. To recapitulate: Brandy exerts a decided influence over the choleraic poison, and when administered by enemata and by the mouth rarely fails to control the watery evacuations. The earlier we arrest the watery discharges, the more likely we are to save our patient. Quinine, calomel, and camphor, in combination, are well adapted to the treatment of the disease. Early in the disease, and through all the stages of collapse, there is a perceptible lesion in the mucous membrane of the whole alimentary canal, more marked in the colon, the elliptical plates are elevated, and the mucous membrane more vascular. If the watery evacuations are arrested early in the disease, reaction will be more rapid, and the patient will convalesce without much constitutional disturbance; but if the patient passes into collapse, reaction will be slow, and he may recover with consecutive fever, or he may die with softening of the more vascular organs of the body, and ulcerations of the mucous membrane of the colon—lesions produced most likely by want of a proper nutrient element in the blood.

Poisoning by Stramonium.—Dr. Johnson reported a case of stramonium poisoning.

Comparing the case with one he had several years ago,

Dr. MITCHELL spoke of the similarity of poisoning from belladonna and stramonium, and other narcotics of the same class, all producing a nearly identical state of the system. Dr. MINOR referred to galvanic electricity, in this connexion, as a new remedy in the treatment of severe narcotism, a case showing great benefit from its use having recently been published in the *Lancet.*

Dr. BELL recurred to a case of stramonium poisoning, a little more than two years ago, of an old negro woman, who, feeling unwell, drank an indefinite quantity of an infusion of stramonium leaves which had been prepared for another purpose. This old woman was first discovered after drinking the tea, wandering in the back yard scrambling along the fence, as if trying to get hold of something indistinctly visible, for being called to account for her strange behavior, she could give no reply, but slavered and muttered as if *drunk.* I was soon after called in—just at night. She appeared foolish, had the peculiar facetious leer often observed in drunkenness. If let alone, she continued clawing everything within reach, and seemed inclined to constant motion. Pupils dilated, skin rather cool, but not more than could be attributed to an hour's exposure in the wind, and pulse 88, small. Her breath did not smell of alcohol, and there was no clue to her condition. Concluded, however, to give her an emetic, which quickly operated, ejecting more than half a pint of dark colored liquid of the odor of stramonium. After this she was more quiet, but still unable to say anything but yes and no. She appeared not in the least sleepy, but, on the contrary, wakeful.

I ordered for her the ammoniated tincture of valerian, being reminded of it from its effects in a similar state of the system produced by alcohol. Of this she took, in divided doses, half an ounce in three hours, then becoming quiet, went to bed and slept well. Was a little stupid next day, but required no other treatment. As near as could be ascertained, she took the tea about an hour before I was called in.

Photopsia.—Dr. ENOS reported the following case: A lady nursing her third child, and who was always feeble when nursing, was attacked with luminous vision to such a degree as to wholly interrupt a correct appreciation from the sense of sight. This came on in paroxysms daily about 4 o'clock, and was cured in three weeks by quinine, two grains three times daily.

Discussion on this case elicited from Dr. Enos that he never found it necessary to give more than two grains of

quinine at a dose three or four times daily in intermittents, these doses proving successful in his hands.

Hydrocele treated by iron wire.—Dr. Enos reported his having recently operated for hydrocele by Simpson's method, using the iron wire suture. Operated only a week ago, and the case is favorably progressing. Considering the success of this case and others recently operated upon by this method, believes this to be the best operation for hydrocele.

Dr. Minor referred to a case upon which he had lately operated, first for hydrocele of the cord, and subsequently of the scrotum, by the use of the iron wire suture, as being highly satisfactory. He thinks well of the operation for various reasons. The fluid gradually escaping admits of an equally gradual contraction of the tissues; the iron thus produces only so much irritation as is necessary to cause adhesion, and it is in this way that the cavity is obliterated.

The gradual obliteration of the cervix uteri in the later months of Pregnancy is not a universal rule.—Dr. Mitchell said: Some years since a woman in Paris presented herself at the Clinique of Paul Dubois, declaring herself arrived at the full term of pregnancy, and wishing to be received for confinement. Her appearance coincided with what would be expected if her statement as to her condition was correct. On examining her the cervix uteri was found but little shortened, and Dubois pronounced her opinion as to being at term to be erroneous. But labor pains soon came on, which rapidly diminished the size of the neck and effected the delivery of a child fully developed.

At another time he examined the body of a female who died in the eighth month of pregnancy, and found the cervix uteri as long as it usually is in the first month.

I have since met with three cases in which the uterine neck at the commencement of labor at term, was as long as at any time during the early months.

In all these instances the cases were *primiparæ*, and in two were attended by puerperal convulsions.

The gradual diminution and obliteration of the cervix in the latter months of pregnancy, though a *general rule*, is therefore not universally applicable. That exceptions occur is important to be borne in mind in deciding a question like that presented to Dubois just referred to, as to whether a patient has arrived at her full term; and also in a medico-legal examination, when the physician is called to determine the stage of pregnancy.

Convergent Strabismus.—Dr. HUTCHISON reported a case of convergent strabismus occurring in a little girl seven years old. In the early part of June last she had an attack of tonsilitis, which left her debilitated for some time. About the 1st of July she was found to have double vision with the right eye; an object held on a level with the eye, or above or below the line, or at one side, appeared double when both eyes were open; when the left eye was closed she saw but one object. Her appetite and strength were impaired; soon after this decided strabismus of right eye occurred. A mercurial cathartic was given without benefit. Dr. H. suspecting that the strabismus was owing to nervous derangement, the result of debility, prescribed ʒ i Squibb's syr. pyrophosph. iron, a generous diet, and sea bathing; croton oil liniment was also applied to the nucha. At the end of a month the strabismus had disappeared, her strength at the same time having been restored. Dr. H. inquired if any member had met with a case of congenital strabismus.

Apoplexy.—Dr. HUTCHISON remarked that he had just returned from the post-mortem examination of a married woman, temperate, thirty-nine years of age, and the mother of six children, who died suddenly on yesterday. She had complained of headache almost every day for several months, though it was not very severe. Yesterday, about 1½ P.M., she felt nausea and made an effort to vomit, immediately afterwards she had a convulsion, and died almost immediately, before Dr. H. reached the house. Coroner's examination was held to-day. About 12 ozs. bloody serum were found in the abdominal cavity; the large veins in the abdominal cavity were very much congested, so also were the kidneys, spleen, liver, and intestines; each pleural cavity contained about 6 ozs. bloody serum, and the pericardium contained about 1 oz. The left ventricle was hypertrophied in a marked degree; the mitral valves were thickened and covered with an atheromatous deposit; the semilunar valves of the aorta were also thickened, but both sets of valves appeared to close pretty well. The meninges of the brain were congested, and the lateral ventricles were nearly filled with fluid blood; the fourth ventricle also contained clots of blood. Dr. H. supposes that the abdominal and thoracic congestion and effusion were produced by obstruction to the circulation through the heart, and that the apoplexy was also a consequence of the diseased condition of the heart.

A Case of Strangulated Hernia.—Dr. ISAACS said: I was

called on Sunday, the 16th of October, at 5 P.M., to visit Mr. H——, æt. 35. He informed me that he had had hernia for the last fourteen years, during which time he had worn a truss. He had never had any difficulty in reducing the hernia, or in keeping it up with the truss, but that yesterday, at 1 P.M., while engaged in sawing wood, the hernia suddenly became larger; he was also at the same time seized with pain in his bowels, which had continued ever since, and was gradually increasing. On examination I found that there was an inguinal hernia on the left side, as large as a turkey's egg; there was no pain or tenderness on handling the tumor. From the feel of the part I believe it to be partly intestinal and partly omental. The stricture seemed to be very light, and at the external ring. There was not the least impulse of the tumor on coughing—no pain on pressure of the abdomen, no tympanitis, nor any nausea on vomiting. There had been a slight passage from the bowels on Saturday afternoon. The expression of the countenance good, yet the patient was evidently very anxious about his present condition. Pulse 64, regular and moderate in force. Some efforts had been made to reduce the hernia before I arrived. I employed the taxis for about fifteen minutes, but finding that there was not the least disposition in the parts to yield, I desisted, and at once proceeded to the operation. The patient was placed under the influence of chloroform. I made an incision in the long axis of the hernial tumor, and divided successively the coverings, until I arrived at the cremaster muscle. The external ring having been fairly exposed, was found to be the seat of the stricture, which was remarkably tight and unyielding. This was divided freely with Cooper's knife. I now attempted to return the parts without opening the sac, but this was found to be impracticable. The remaining coverings of the hernia were then cautiously divided, until I arrived at the sac, which was freely opened; a mass of omentum of a rounded form and tuberculated surface immediately came into view. It was very firm and dense, and had evidently been in the hernial sac for a long time—perhaps for years. On careful examination the hernial tumor was found to consist entirely of indurated and thickened omentum, which was apparently adherent to the lowest portion of the hernial sac. Ligatures were applied *above* that part of the omentum which was changed in structure, and a portion of it, larger than the size of a hen's egg, was removed by the knife; after this, another portion, which had been left at the lower part of the sac, and seemed to be strongly adherent to it, but in reality

was only held by a ring-like constriction of the sac, was removed. This was effected by merely nicking the ring with the knife, when the remainder of the omentum was easily drawn out—it was about three inches long and two wide. The omentum to which the ligatures were attached, was returned into the cavity of the abdomen, and left at the mouth of the sac, so as to form a kind of plug, while the ligatures attached to it were brought out of the wound and laid upon the skin. The wound was now dressed, as usual, by sutures, adhesive strips, compress, and a firm bandage. Next day (Monday) I found the patient entirely free from pain, no tenderness on pressure of the abdomen; pulse, 72; temperature of surface, natural; tongue, nearly clear; had slept well; expressed himself as feeling very comfortable, &c. I visited the patient this day (Tuesday), and found him doing very well. No pain or tenderness on pressure of abdomen; complained only of the tightness of the bandage, but not very much; pulse 74; tongue slightly furred; had slept well; appetite moderate; has been kept on low diet; temperature of surface, natural; is cheerful, and altogether is thus far in a very satisfactory condition.

P.S. I have just seen the patient (February 10th). The operation has effected a radical cure of the hernia, and he is now in excellent health.

ART. IV.—*Report of Cases of Infantile Affections, with Remarks.*
By J. LEWIS SMITH, M.D.

Case 1—*Pneumonia.* August 20, 1859.—G——, a male infant, was born on the 18th inst. of healthy parents, and after an easy labor. He cried at first with a strong voice, but in a few minutes the respiration became irregular, as if obstructed, and the face livid.

This spasmodic and partial respiration continues; no cough noticed; the infra-mammary region on each side is drawn in during inspiration; face livid. On listening over the left lung I detect distinct crepitation both laterally and posteriorly.* On the opposite side the respiratory murmur is clear. Apply camphorated oil over the left lung.

Evening. Face still livid and the respiration as before; pulse 124; respiration 56; the infra-mammary region still contracts on inspiration, and crepitation is distinct on left side.

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* According to recollection there was also dulness on percussion on the left side, but no memorandum was made of it.

Aug. 21.—This child died last night, and no autopsy was permitted.

Case 2—Oct. 24, 1859.—J. H., five days old, of healthy parents, died to-day after an illness of three days. He was not seen by me until after his death, and the father states that he appeared well and nursed till the third day, when his respiration became short, difficult, and accompanied by a moan with little or no cough. The day before his death his fingers were firmly flexed, but there was no actual convulsion.

Autopsy, three hours after death.—Body scarcely cold; lungs of a deep red color, but the right lung had a deeper hue than the left; both readily inflated; foramen ovale open; thymus gland somewhat larger than the heart; liver apparently healthy; brain not vascular, and mesenteric glands of normal appearance; no portion of the lungs sank in water.

In the part of the lungs most affected were found the blood elements, both kinds of epithelial cells, exudation corpuscles, and a cell somewhat larger than the blood discs, the pneumonic cells. These last were found single and aggregated in groups of from three or four to as many as eight, and were non-nucleated.

The liver contained numerous fat globules, with but a moderate number of hepatic cells. There were also in the liver many granular cells of the size and appearance of the nuclei of the hepatic cells. The mesenteric glands contained abundant chyle corpuscles.

Remarks.—In the first case narrated above, the symptoms and the distinct crepitation, and in the second the microscopic appearances, indicated the presence of pneumonia. A feature in these cases, of interest, and of considerable practical importance, was the absence of cough.

In many if not in most cases of pulmonary disease, occurring in very young children, this symptom is absent; sometimes there is an absence of other symptoms, in other words the disease is entirely latent. I have known death to occur from pleuro-pneumonia where the autopsy revealed almost general pleurisy on one side, and on the other, severe pneumonia accompanied by small pulmonary abscesses, and yet although the patient was seen daily, there was no symptom to attract attention to the chest. This shows the importance of an examination of the chest, in cases of obscure disease in very young children. It is probable that many infants die of pulmonary disease during the first week of their existence without any one suspecting the real cause of death. In the remark upon two cases published in the *London Journal of Medicine*,

May, 1850, from the *Jour. für Kinderkrank*, Jan., Feb. 1850, it is stated, "Clermel Lombard * * observes that pneumonia or its sequelæ is the cause of death of more than one-sixth of the children who die during the first week after birth." Another writer affirms that pneumonia is more frequent the nearer birth it occurs. This disease is sometimes congenital, but in the above cases, and generally, no doubt, this early pneumonia is due to causes operating at or soon after birth.

In the first case narrated above, the infra-mammary region was observed to be depressed during inspiration; it will be recollected that a few years since Dr. G. O. Rees promulgated the opinion that this was the sign of pulmonary collapse. I have given considerable attention to this subject, and have found that in children the ribs are depressed on inspiration under a variety of circumstances. It occurs generally in the bronchitis of infants if it be at all severe. It occurs in advanced croup and at birth when the lungs are being expanded. It occurs also in the infant when the inspiration is hurried and short as in crying, although there is no disease. I have noticed it also in the adult in a case of advanced phthisis when there was reason to think pleuritic adhesions were present, and I have noticed it also in severe acute bronchitis in the adult. Depression of the ribs then during inspiration occurs under such a variety of circumstances that it is, *per se*, of little diagnostic value. In the second case narrated above the lungs were readily inflated—the history of medicine is full of doctrines learned and unlearned, and the belief that insufflation is a diagnostic test between collapse and pneumonia, had scarcely become general in the profession, when it was shown to be absurd. It is now known that in recent pneumonia of the child the lungs can be inflated. In pneumonia of considerable duration the air can generally be made to encroach on the hepatized portion by strong insufflation, but the central part still remains solid.

Case 3—Atelectasis Pulmonum.—On the 22d day of December, 1858, I was asked to visit Mrs. F—— in labor at about seven and a half months. She had borne two or three healthy children, and had lost two in a feeble state soon after birth. Her own health was usually delicate. There was apparently no exciting cause of the premature labor pains, but the fœtal movements had been less distinct during the previous twenty-four or forty-eight hours. The child was born in the natural position after a labor of three or four hours. It moved sluggishly, did not cry, and there was little if any pulsation in the umbilical cord. It gasped at intervals

of about ten minutes. The body and limbs soon became cold, and the latter livid.

After about an hour spent in rubbing the body, and compressing the thorax, according to Dr. Marshall Hall's ready method, the child began to breathe oftener, but still in the same gasping manner. There was not from the first any perceptible pulsation at the wrist nor in the left infra-mammary region. It once or twice opened its eyes, made feeble efforts to cry, and had one free dejection. I now left, having ordered warm milk to be given; but it gradually sank and died two and a half hours after birth.

Autopsy, six or eight hours after death.—Size of child about that of seven and a half months; has hair and nails; both lungs small and of a dark red color; no crepitation can be detected in either; both sink partially in water; and both can be readily inflated; the heart appears healthy; there is a large quantity of blood in the thorax after removing the heart and lungs.

The liver has a dark-red color; is easily broken down, and occupies, as is usual at this stage of development, a considerable part of the abdominal cavity; the stomach contains air and frothy mucus, and this organ appears healthy; the intestines have the usual appearance, and no air or gas is discovered below the stomach.

Remarks.—A point of interest in reference to the above case is the time which the infant survived. Both lungs continued in the fœtal state, for no part was in the least crepitant, and yet it lived two and a half hours. In the eighth volume of the *Transactions of the London Path. Society*, Dr. Ogier Ward relates the case of an infant born about the seventh month, which died after four hours. At the autopsy he found the "Lungs very dark, like liver, and non-crepitant." At birth, then, the function of respiration may be so long a time in abeyance before death ensues.

Another point of interest in the case examined by me was the presence of air in the stomach. No air was blown into the mouth, nor was it the product of decomposition, as the examination was made so short a time after death. The spasmodic respiration must have forced the air into the stomach instead of expanding the lungs.

Case 4—Spasm of the Glottis. Hemorrhage from the Bowels.—Aug. 28, 1858. A German infant, nursing, and having eight teeth, was suddenly seized to-day with convulsions. I learned that he had been a healthy child till about the age of twelve months, when he had a single convulsive attack, and that from this date he had remained in good

health until the 27th inst., when without any premonitory symptoms, he had a dejection of almost pure blood, black and offensive. This morning he had a dejection of a similar character, and this afternoon a third—immediately after which the convulsions occurred. I found him cold and pallid, and prescribed wine, and oleum terebinth. in doses of two drops every two hours. When revived by the wine he seemed cheerful, and nursed readily. I could discern no assignable cause for the hemorrhage. There was no marked tenderness or distension of the abdomen; pulse 128; countenance pallid but no emaciation.

Aug. 29.—Has had no dejection since yesterday; pulse 152; surface warm; respiration natural. He has taken through the night three drops of laudanum in two doses to procure sleep. Continue turpentine, and if restless, laudanum, in doses of one and a half drops, wine omitted.

Evening.—Was taken at one P. M. with general convulsion, lasting about five minutes, after which he slept till 5 P. M; pulse still accelerated, and no material change in other symptoms; had one dejection this evening, by a soap suppository; it consisted of dark and offensive matter similar to that passed yesterday. Continue turpentine in doses of three drops every two hours.

Aug. 30.—Pulse from 150 to 160; up to this time he has been playful, but is now drowsy, and when disturbed, fretful. He manifests no desire for food as he did before his sickness, but he still nurses. Give two drachms of castor oil—continue turpentine, evening. Remained stupid till three or four P.M., when the oil produced three evacuations, the first two having the same sensible properties as those already mentioned—the last dejection consisted mainly of mucus. This morning he seemed to have tenderness on pressure over the abdomen; this evening he bears firm pressure; has been lively and playful since the last evacuation; is able to walk; pulse 152; surface cool and skin moist; tongue moist and nearly clean; does not vomit; respiration nearly natural. He has taken up to this time thirty-two drops of turpentine. Continue turpentine, and as his appetite is now improving, let him have beef broth, in addition to the mother's milk. When he cries or frets he has a spasmodic attack. In the beginning he had one or two convulsions, but since then the spasms have evidently been confined to the glottis. As observed by myself, after a succession of expirations the glottis closes so as to prevent the admission of air; he lies for a moment in an insensible state, when the glottis relaxes, and inspiration occurs. There is no frothing at the mouth, no spasmodic

action of the muscles of the face or extremities, and after the attack he seems as lively as before.

Aug. 31*st.*—Has had one dejection since yesterday, rather slimy and containing little or no blood; he is playful; pulse 132; the condition in other respects the same as yesterday; continue treatment.

Sept. 1*st.*—Has passed a quiet night. Seems rather languid, though inclined to play with objects; pulse 152; is pallid, but not emaciated; has had no spasmodic attack since the last record, and no dejection; omit the turpentine, and give castor oil.

Sept. 2*d.*—Seems improving, and is lively though feverish; has had two dejections, slightly tinged with blood, and has had one convulsive attack, similar to those described above.

Sept. 3*d.*—Has had no spasm and no dejection; pulse 164; plays with objects; takes the breast and food readily; give no medicine, unless occasionally the opiate, if required.

Sept. 6*th.*—The bowels are now regular, and the dejections have a healthy appearance; he has had no spasmodic attack since yesterday, and is playful. The only symptom of disease is the accelerated pulse.

Jan. 5*th*, 1859.—This child continues at intervals to have spasms of the glottis, always brought on by crying; otherwise he is doing well.

Dec. 1*st.*—Has grown considerably since the last record, and appears to have recovered, except that, at long intervals, the spasms still occur.

The cause and the source of the hemorrhage in this case are uncertain. The absence of tenderness and the cheerfulness of the child, even when the pulse numbered 160, would rather show that there was no inflammation; and from the result of the case, it is probable there was no foreign substance lodged in the intestines, giving rise to the discharge by irritation. It has been suggested by an eminent physician of this city, that the pathological state was one of congestion of the chylopoietic system, and that the hemorrhage was therefore conservative. Whatever may have been the condition, the fact is interesting that so much blood was passed with no apparent injury to the child, even no prostration, except after the first evacuation.

The spasm of the glottis lacked some of the features which are present in well-marked cases of laryngismus stridulus. There was no crowing inspiration, nor were carpo-pedal contractions noticed, though the laryngeal spasm was distinct.

I am not aware that any author has mentioned the emotions as a cause of spasm of the glottis. Dentition, intestinal

disorder, disease of the nervous centres, enlargement of the cervical, bronchial, or thymus glands, have been mentioned by writers as causes, but in this case, the exciting cause, and, so far as appeared, the only cause, were the emotions.

Case V.—Remittent Fever.—W., ætat. three years, was seized on the 17th inst. with vomiting, and has had more or less fever ever since; is restless; bowels constipated; complains only of pain in the head and epigastric region; pulse 130; has a pretty frequent cough; there is clear resonance on percussion of the chest, but a few coarse mucous râles are noticed. Give hyd. chor. mit. and pulv. ipecac.

Evening.—Pulse 158; no appetite; coughs often and is restless; has taken five grains of the calomel, but has had no dejection; coarse mucous râles noticed in the chest. Give castor oil, and apply mustard to the chest.

March 21st.—Seems much improved this morning, and walks round the room; has an occasional dry cough; pulse 130; the bowels have been moved.

Evening.—Became much worse soon after noon; face flushed, and skin hot; pulse 154; has a feeble cough, and complains of pain in the bowels; stools scanty, with some tenesmus; a few coarse mucous râles in the chest. Give quin. sulph. gr. 1 every 4 hours.

March 22d, morning.—Pulse 110; coughs a little this morning; no appetite; is fretful; continue treatment.

March 23d.—Was restless and in high fever through the whole night; pulse 124; one dejection; good resonance on percussion of the chest; coarse mucous râles on both sides; continue the quinine.

March 24th.—Is cheerful and smiling; apparently convalescent; has no fever; little or no cough. Through her sickness the afternoon exacerbations have been well marked, and they have come on suddenly; during the apyrexia the respiratory rhythm has been natural and the cough slight, but in the exacerbations the cough has been frequent, and the expirations short, and accompanied by a moan, as in pneumonia. She complained only of pain in the head and epigastric region. From this date the anti-periodic was gradually discontinued, and she seemed entirely well; but a few weeks subsequently two or three paroxysms of ague occurred, which quinine speedily relieved; the father has since suffered from the same complaint.

The subject of miasmatic remittent fever in infancy and childhood is one of interest and importance, from the fact that the symptoms are somewhat different from those in adult life, and the disease is liable to be mistaken for other

serious affections. It is sometimes difficult to make a differential diagnosis between acute hydrocephalus, pneumonia, and the fever from dentition and intestinal derangement on the one hand, and miasmatic fever on the other. It is frequently only after watching the progress of the disease that we can make a safe diagnosis. In the case narrated above the symptoms during the exacerbations bore a striking resemblance to those in pneumonia, and if the paroxysms were not so well marked, as they often are not, I should have been in doubt as to the exact pathological condition. The cough which was present in this case is, according to my observation, a common symptom in robust children during the pyrexia of malarious remittent fever. In feeble constitutions, or when the bowels are relaxed, I have not noticed it so often. In the adult there is often in this disease hawking from congestion in the throat. In the child this same condition is apt to extend into the bronchial tubes, and coarse mucous râles are heard on both sides of the chest. This is no doubt the cause of the cough.

The moan on expiration was as well marked in this case as it ordinarily is in pneumonia, although in the apyrexia the respiration was easy and natural. This is a noteworthy fact, for the moan on expiration has been pronounced (Bouchut) diagnostic of pneumonia. I have noticed it in other cases of remittent fever appearing and disappearing regularly with the paroxysms of fever.

The diagnosis of remittent fever from pneumonia can generally be soon made by examination of the chest, and by watching the progress of the disease. One form of pneumonia in the young child, that arising from tubercles, bears a very close resemblance to remittent fever. The tubercular deposit at this age generally excites inflammation in the substance of the lung, and as this in the first stages of the disease is usually slight, there is difficulty in detecting it by auscultation and percussion; the fever, too, is apt to be of a remitting character. In these cases there is progressive emaciation, and a cough, at first slight, dating back prior to the commencement of the fever. These two facts will aid us in the diagnosis.

Case 6, *Marasmus.—December* 21*st*, 1858.—Was called to-day to an infant æt. 7 months, nursing, and having no teeth; she has always been delicate, and her father is pallid and spare, with a strongly marked scrofulous aspect, and the grandfather on the same side died of protracted pulmonary disease, probably phthisis. The mother is apparently healthy, and of good constitution. Some two years since an infant

died in the family, without a cough, in a state of great emaciation, and the older children, a boy and two girls, from four to nine years of age, are healthy, though of pallid or waxen complexion. The mother states that the present patient appears to be in the same condition with the one mentioned above who died two years since. She nurses and increases in stature, but since the age of one week has been more or less emaciated. At present the emaciation is extreme. She had eczema capitis for a considerable period, but it is now healed. The cervical and inguinal glands are enlarged; pulse 106; respiration natural; no cough; bowels for a month have been much confined, sometimes not moving for nearly a week; stools dark-colored and consistent; stomach very irritable. Give olei morrhuæ aselli ℥i three times daily.

The mother attributes the emaciated state of the child to insufficient nourishment, and a lack of attention on her part, she having little milk, and being obliged to work hard for the support of the family.

March 29th, 1859.—This child died yesterday. I learned that since my last visit she has moaned much and vomited often; she seemed easiest after nursing, and was rational till within a few hours of death. She had no symptoms of cerebral disease, and no cough.

Autopsy.—Body much emaciated and eyes sunken; lungs healthy, but the depending portions congested, and some of the lobules depressed below the common level; both lungs were readily inflated; liver rather small, and dark blood exuded from an incision; spleen and kidneys healthy; stomach and small intestines also of normal appearance, excepting moderate vascularity near the ileo-cœcal valves. Peyerian patches quite distinct: the lower half of the ascending colon distended; the remaining portion of the colon to the rectum much contracted. The mucous membrane of the colon was vascular in places, somewhat thickened and softened, though this last was, perhaps, cadaveric. The mesenteric glands were slightly enlarged. No tubercles were formed in any part of the body.

This case is interesting on account of the great emaciation and the history of the child, which indicated tubercular deposition, and yet no deposit was found, nor were any lesions discovered, which, under ordinary hygienic conditions, would have proved fatal. The poverty of the family and the bad nutrition of the child had, no doubt, more to do in causing the death than the slight entero-colitis. Physicians are too much in the habit of considering cases of extreme

emaciation in children as incurable, from the presence of tubercles, when post-mortem examinations show that they are present only in a small minority of instances, and such cases being given up, frequently get well in the hands of empirics or nurses. In thirty-six cases of post-mortem examinations of young children, made by me, or at which I have been present, in thirty of which there was much emaciation, and in the remaining six considerable, tubercles were found in only nine. In a large proportion of these thirty-six cases, the disease was not in its nature incurable. The most common lesion was intestinal inflammation, either enteritis, entero-colitis, or colitis. Protracted intestinal inflammation in the child is attended by extreme emaciation. In these I have generally found the mesenteric glands enlarged, the same way in which the axillary or inguinal glands are affected in inflammation of the extremities. The color becomes lighter, consistence firmer, and by the microscope the lymph corpuscles are found to be greatly augmented in number. In one or two cases the morbid condition was congenital syphilis; no local disease was noticed. In another, an Alms'-house child, entrusted to an intemperate nurse, no lesion was found, and from the circumstances, it was quite probable that death resulted from starvation. From these observations, it is evident that with sufficient perseverance on the part of the physicians, a larger proportion of emaciated infants might be saved.

ORIGINAL LECTURES.

LECTURES ON THE ACCIDENTS

WHICH MAY OCCUR

SUBSEQUENT TO PARTURITION.

Delivered in the University Medical College, New York.

BY T. GAILLARD THOMAS, M.D.,

PHYSICIAN TO BELLEVUE HOSPITAL.

LECTURE III.

Suspended Fœtal Animation.

GENTLEMEN,—I need not dilate upon the importance of your thoroughly understanding those pathological conditions which may cause the death of the new born child, at the very moment of its birth; when its parent first thrills with joy that "a man is born into the world," and the friends who surround her begin to rejoice in the termination of her travail and the advent of a new object of love and attention.

A few minutes' hesitation or a slight error ont he part of the attendant is now worth a lifetime to the being whose lease of life has just commenced, and who must enter instantly upon a new function, that of respiration, to maintain it.

Although the tenacity of the fœtus for life is remarkable, and although, as has been proved by Milne Edwards and Le Gallois, the neonatus will survive without air much longer than its parent would, we may say in general terms that if within two or three minutes respiration is not at least attempted, the chances for life are slight, and each succeeding minute makes them slighter. In this short space of time, then, we are called upon to determine what is the cause of the absence of the respiratory effort, and intelligently to endeavor to remove or modify the condition which has produced it.

My conviction is that this subject has been examined into, in those works generally used by the American student as text books, less carefully than any other of equal importance in the whole range of obstetrics, and that the rules given for the guidance of the accoucheur are in direct ratio unsatisfactory, uncertain, and inefficient. It is for this reason that I will consume the entire hour allotted to me this morning in its consideration.

CAUSES OF SUSPENSION OF FŒTAL ANIMATION.

Suspension of fœtal animation you will always find due to one of the following causes:

NOTE.—This lecture has already appeared in part in another form.

1*st. Asphyxia.*
2*nd. Syncope.*
3*rd. Cerebral Congestion.*
4*th. Apoplexy.*

With a little caution, judgment, and experience, you will generally be able to diagnosticate one from the other, and apply to each its appropriate remedy.

ASPHYXIA.

The term Asphyxia, is used to designate that condition which results from the cessation of the contact of air containing a sufficient amount of free oxygen with the blood. That fluid rapidly becoming charged with carbonic acid, refuses to pass from the lungs, the heart ceases to contract, the brain is thus not supplied, and a variety of symptoms indicative of the state called Asphyxia soon show themselves.

Causes.—In the adult, Asphyxia is due to one of two causes, the absence of air as by strangling, or the admission to the lungs of air, which contains an insufficient amount of free oxygen, as in breathing air containing carbonic acid gas, &c. In the fœtus the same causes for it exist, though in it, breathing like a fish and not like a mammal, they are not at first quite so evident. Place a fish in a vase of clear water and how does it breathe? The oxygen contained in the water passing, by the movement of the ventral fins, over the gills, is divided from the blood which flows within their thin-walled blood-vessels, only by the coats of those vessels through which an interchange of gases readily occurs. In like manner the fœtal tufts, washed by the oxygenated blood of the mother, which is divided from the blood within them (the tufts) only by their thin walls, admit of an interchange which gives oxygen to the fœtal blood, and carbonic acid to that of the mother.

If the gills of the fish be bathed in water no longer containing oxygen but carbonic acid, the animal dies as rapidly almost as if it had been entirely bereft of air; and so the fœtus becomes asphyxiated either from a disordered condition of the blood, which bathes its placental tufts, or from the entire or partial exclusion of oxygenated fluid from contact with them.

We may accordingly arrange the causes of fœtal asphyxia thus:

(*a*) *Compression of the cord.*
(*b*) *Compression of the placenta.*
(*c*) *Hæmorrhage.*
(*d*) *Separation of the placenta.*
(*e*) *Maternal toxæmia.*

(*a*) The first of these causes, compression of the cord, may occur from its prolapsing or falling down alongside of the child's head, or in a lingering labor from its being pressed for too long a time against the child's body. This, of course, prevents the flow

of blood to and from the placenta, which is synonymous with the lungs, the blood soon becomes charged with carbonic acid, and death ensues.

(*b*) The second cause is perhaps even more frequent than this, although it has received much less attention. After a labor has lasted many hours in the second stage, or after the administration of ergot at any period of this stage, the uterus not only exerts its contractile powers by alternate and intermitting contractions, but closing firmly, as it were spasmodically, upon the child, it enters into a constant and unintermitting contraction, the power of which they can testify to, whose arms have been nearly paralysed in the performance of the operation of version under these circumstances. Now this firm and unnatural contraction of the organ presses the spongy mass, the placenta, firmly against the child's body, closes its pouches in which the mother's blood flows over the fœtal tufts, and obliterates the uterine sinuses through which that blood passes to the placenta. It is in fact only an exaggeration of that state which we produce by rupturing the bag of waters to check hæmorrhage in the first stage of labor, and exactly the same principle is developed as we employ when we bind a billiard ball firmly in the palm of the hand, to check hæmorrhage from the palmar arch.

(*c*) The placenta may not, however, be simply compressed; it may be partially detached, the blood which flows into its sinuses readily escapes without oxygenating the fœtal blood, and the child dies without itself having lost a drop. This constitutes the third cause, hæmorrhage.

(*d*) The fourth cause is only one step further than this; the entire placenta is detached before the birth of the child, being cast off by the violence of the uterine contractions.

The 2nd and 4th of these causes are those which produce the fatal results so often obtaining in breech presentations, where the passage of the head is not much retarded, and yet the death of the fœtus occurs. Here the empty uterus contracting, either crumples and compresses the placenta, or entirely casts it off before the head is delivered. In a natural labor the placenta is probably at times thus detached before the birth of the child, as we sometimes see it expelled before delivery in placenta prævia; as a general rule, however, its avulsion does not take place before the head has been delivered, and the child's body is sweeping over the perineum, and thus the detachment proves of no serious consequence, since respiration may now be effected by the lungs.

(*e*) If, as already stated, the water in which the fish swims, contains carbonic acid instead of oxygen, the blood in the vessels of the gills will not be aërated, and in like manner if the mother's blood contains any poison which prevents oxygenation, a like result is produced.

This cause of death is not as common as others which have been and will be mentioned; it exists, however, under these cir-

cumstances. Sometimes the placenta during the latter months of pregnancy undergoes a fatty degeneration, which injures its powers as a decarbonizing agent, and renders the child, which depends upon it for its respiration, so prone to asphyxia, that the expulsive efforts of the uterus interfering with its (the placenta's) already disturbed circulation are sufficient to turn the balance against it.

Another way in which asphyxia is thus produced, is by the disordered placental circulation occurring with puerperal convulsions or other spasmodic seizures. During the convulsion the mother's blood is not purified, because respiration is very imperfectly performed, her carbonised blood going to the placenta is not allowed to circulate freely through it on account of its compression, and the partial closure of its sinuses from the efforts of the abdominal muscles, and thus a double reason exists for fœtal asphyxia.

But again, puerperal convulsions own as a very frequent (may we not almost say constant?) cause, uræmia from functional or organic disease of the kidneys, and the poisons, urea and carbonate of ammonia, existing in the carbonized and badly circulating blood, still farther aid in preventing oxygenation, and producing a poisoned condition of the fluids of the fœtus. From this triple danger we may almost say that it is exceptional for the child to escape, and hence the fearful mortality accompanying that accident to labor.

Symptoms.—It is of course important to be able at once to recognize Asphyxia from Syncope, or any of the other conditions which produce the death of the fœtus, as the treatment adapted to it will essentially differ from that which is appliable to them.

The facies of the asphyxiated child is eloquent in telling of the lesion; the face is dusky, the lips purple and pouting, the eyes glassy, and the limbs unyielding, and not flaccid as they are when syncope has been the cause of trouble. The heart may be felt beating feebly or not at all, or its strokes may be intermittent, while there is not the slightest effort at respiration.

Prognosis.—The prognosis under these circumstances will depend very much upon the condition of the heart; if it is beating ever so feebly there is hope, and we should under no circumstances give up trying to resuscitate the child as long as it continues to do so. Dr. Blundell relates a case in which these efforts were continued for one hour and five minutes before obvious signs of life appeared, and yet the child recovered, and numerous cases are on record in which children have been resuscitated after being for nearly or quite an hour asphyxiated, as will appear in the sequel of this lecture. Should the heart have ceased to beat, there is but little hope, although even here we should make an effort under the supposition that it may be beating so slightly as to have escaped our notice, or that it may assume its function.

Treatment.—In pointing out the treatment of fœtal asphyxia, I shall be very brief, and avoiding studiously the literature of the

subject, give you concisely what I conceive to be the best resources of our art at the present day.

When the child is born and you perceive that it does not respire, pass the finger, guarded by a piece of soft linen, into the fauces, and wipe out all the mucus which adheres around the rima glottidis; then slap it sharply upon the buttocks and chest, blow suddenly and violently into its face and mouth, and dash cold water upon it with the hand. Should it still show no effort at respiration, tie and cut the cord, and carrying the child to an open window allow a draught of cold air to blow in upon it, for it has been fully proved by the experiments of Marshall Hall, Brown-Sequard, and others, that the young of warm blooded animals will die from asphyxia much sooner in a warm than a cold temperature.

As you will have no time for reflexion when you hold in your hands a dying child, whose only chance for life rests with you, let me ask your particular attention now to this question: "What change do you desire to accomplish in the condition of your little patient, to place it under the best circumstances for recovery?" In replying to it let us retrace our steps a little.

You will remember that the cause of the cessation of the heart's action is due to the fact that the blood going to the lungs is not depurated, and consequently absolutely refuses to pass onward through the capillaries, and return to the left side of the heart where it is needed. The pulmonic capillaries, then, are turgid and distended with dark carbonized blood, which will remain there, in spite of all you can do, until it is oxygenated. Now if you stimulate the heart's action, what do you accomplish? Nothing I conceive, except the greater congestion of the already overloaded lung, the greater distension of the already over-distended blood vessels, and consequent increase of danger to the life which you are trying to preserve. Suppose now that you put the child, as so often advised, in a warm bath; you by it increase the force of the flagging circulation, send more blood to the lungs, cause greater congestion there, and accomplish the very thing which you are most anxious to avoid. This is not theory, but fact, supported by well conducted experimentation. Dr. Haighton, says Blundell, found that immersing a kitten in warm water would cause its death much sooner than in cold; and Sir Anthony Carlisle proved that a hedgehog would survive immersion in cold water (38°F.) thirty minutes or more, while in warm water (98°F.) it will die in eight minutes. The animal then drowns much faster in warm than in cold water, and why? Undoubtedly because the circulation being more active in the former, congestion of the lungs is more rapid and complete, hence an earlier result in death.

Avoid the warm bath then, and at once disgorge the distended capillaries of the lungs by decarbonizing the blood which they contain, and this can only be accomplished by artificial respiration.

A few years ago the poverty of our means of producing artificial respiration was indicated by their multiplicity; now our wealth of resource is shown by the fact that there is but one method by which it is effected. Had Marshall Hall written not another line he would have deserved and obtained immortality from those alone which described "Postural Respiration," and for ever placed mankind under a heavy debt of gratitude to him.

To explain his method to you briefly, I will repeat before you, on the body of this recently dead fœtus, one of his experiments.

EXPERIMENT.

I have closed, as you observe, the mouth and one nostril, with adhesive plaster, so as to render them impervious to air, and in the other nostril have inserted a caoutchouc tube, having attached to the end a bent glass tube containing water. I now turn the body (which is lying on the abdomen) on the side, and you see bubbles of air rush through the tube and enter the lungs; and as I turn it again on the abdomen, other bubbles rush back again, showing an escape of air from the lungs. This child's body then (which was delivered about three hours ago) is now breathing as if it were still animate, and by a process very similar to that by which it would then do so. Upon the facts elucidated by this simple experiment, hangs one of the most beautiful discoveries of which modern medicine, rich as it is in evidences of progress, can boast, and here is the philosophy of it all. When the body is placed upon the abdomen, and slight pressure is made over the spine, the air in the lungs is expelled, and when it is turned upon the side, the anterior part of the thorax falls forward by its own weight, the ribs separate, and the air rushes through the glottis, opened by the falling forward of the tongue, and the lungs are filled.

But let us return to our baby, which we have placed by an open window, and upon which we have been operating by Hall's "ready method of respiration."

If it breathes at all we may aid the circulation and increase the animal heat; for these purposes rub the limbs upwards with the hands (or rather let an assistant do this while we go on respiring), and now as the stagnation of blood in the lungs is disappearing, place the child in a warm bath, and upon removing it wrap it in a warm flannel. Should it not recover by these means, we have at least done all that science at the present day can do for its benefit, and avoid the painful consciousness, which reflection on the subject must surely bring us, that we may have been by our misguided efforts instrumental in the evil result which we so much deplore.

SYNCOPE.

Obstetrical writers generally mention Syncope as a cause of suspended fœtal animation, but very little is said of it, and by some it is entirely passed over. My belief is, that syncope is by no means a rare cause of death to the fœtus, and for this part of our subject I ask of you an attentive hearing.

Causes.—The cause of Syncope in the adult is anything which stops the heart's action suddenly, and consequently leaves the brain unsupplied with blood; the same is true of that accident occurring in the fœtus, and the individual causes may be thus arranged.

(*a*) *Compression of the brain by overlapping of the sutures.*
(*b*) *Loss of blood by rupture of the cord.*
(*c*) *Loss of blood by pressure on the cord.*

(*a*) *Cause.*—I am doubtful whether the effects of pressure on the brain can properly be classed under syncope, but they resemble it more closely than they do any of the other lesions, and I will so treat of them. The sutures which exist in the skull of the fœtus, are wisely provided for the purpose of allowing it to change its shape during labor, in accordance with the requirements of the pelvis. By their means the bones overlap to such an extent as to compress the brain so much as, according to the belief of Dr. Hamilton of Edinburgh, and Ramsbotham of London, to cause a lethargic and insensible condition of the fœtus during labor; hence its stillness during that process. This pressure, if very violent and long continued, will partially empty the cerebral vessels, and temporarily impair the supply of blood to the brain, and when birth takes place, it may require so long a time for a proper balance of the circulation to be established, that death may occur before it is effected. Again, pressure may prove fatal in this way; the medulla oblongata, upon which the respiratory action of the lungs depends, may become so enfeebled that it refuses to send proper influences to those organs. Now it is a well ascertained fact that the action of the heart is subservient through the agency of the sympathetic system of nerves, to that of the lungs, as has been demonstrated by the experiments of Le Gallois and Sir Benjamin Brodie, who, cutting off the heads of rabbits and ligating the blood-vessels, caused the heart's action to continue for hours, by alternately inflating and compressing the lungs. Where the medulla is thus crippled, then, death may occur before it has rallied sufficiently to do its duty.

(*b*) As Anæmia produces syncope in the adult, so will it likewise do in the child. Thus if any rupture of the vessels of the cord should occur, syncope would evidently be the result of any considerable loss of blood. This, however, is very rare; and since in separations of the placenta from the uterus, it is now well established that the whole flow is from the mother, we would be inclined to believe that we might safely regard it as an axiom that fœtal anæmia, from sudden removal of a portion of its vital fluid, is by no means

of common occurrence. Observation and reflection have led me to a very different conclusion, one which, as far as my knowledge goes, is not mentioned by the more modern obstetrical text-books, but allusions to which may be found in the writings of older observers, as Fréteau, Desormeaux, Velpeau, &c. I offer it to you as a suggestion by which to direct your attention to the subject at the bed-side, where I think you will find abundant evidence of what I now tell you.

(*c*) *The last and most frequent cause of syncope in the neonatus, is anæmia occurring immediately from pressure on the cord.*

In studying up the subject of asphyxia in your works on obstetrics, you will be struck by an apparent contradiction in their descriptions, which it will be difficult to reconcile. Thus Cazeaux, after describing the dusky appearance of the surface of the asphyxiated fœtus, says: "Nothing is more common than to see the fœtus come forth without any abnormal coloration of the skin, and even with a very remarkable paleness, and flaccidity of the limbs, although the apparent cause of death has been compression of the cord." You will find, too, that the very same condition described by some as asphyxia, is called by others syncope, and by others still anæmia. Thus Velpeau, in speaking of asphyxia, says: "It is this state which has been known under the name of Asphyxia of the neonatus, which Gardien prefers to call Syncope, and which others have described under the name of Anæmia." Now the pale face of the syncopic infant does not certainly resemble so closely the congested and dusky one of asphyxia that they could be readily confounded, or described synonymously.

The explanation of the seeming paradox lies, I opine, in the anatomical structure of the cord. Let us examine it. The funis umbilicalis consists of three vessels—two arteries which carry blood from the fœtus to the placenta, and one vein which carries it from the placenta to the child. If this canal is fully compressed, all communication between the child and placenta is cut off, and asphyxia results; but if the pressure upon it is only partial in its effects, the vein will yield to it, and the flow through it to the child will be checked, while the arteries, being difficult of compression, will still continue transmitting blood from the child to the placenta, which is an entire loss, since it cannot return to the fœtal circulation.

This difference in the compressibility of arteries and veins exists all over the body; why should we deny it an existence here?

If you compress equally an artery and vein lying side by side in the same tissues, you will stay the current through the vein, while that through the artery will still continue, and soon you will find that the distal side of your compressing power will be gorged with blood, which cannot return to the heart. In the same way the placenta and placental end of the cord are gorged with blood which cannot return to the child's body. But if any one wishes to convince himself of this fact by experiment, let him, as soon as

a child is born, lightly compress the cord with his fingers, and he will soon satisfy himself that blood is at every stroke of the heart sent from the child, which cannot return to it so long as the pressure is continued.

When the cord has prolapsed into the vagina, we can readily understand how immediate and complete obliteration of its calibre can occur; but when it has not done so, I believe that almost every case of asphyxia caused by its complete compression is preceded by *partial* obliteration and consequent anæmia. This may explain those cases of asphyxia in which none of the marks of that condition are to be found, but in which those of anæmia are so markedly present as to have induced some to describe all the cases under that name, as Velpeau states.

Unfortunately it is not always easy to diagnosticate this condition from asphyxia, for a child asphyxiated for a long time, loses many of its characteristic marks, as the purple and dusky face, &c. Still where the state of anæmia is well marked, we will generally be able to recognise it and direct treatment accordingly.

Symptoms.—The symptoms by which syncope will be recognised in the young child, will be paleness (extreme if anæmia has given rise to it), flaccidity of the limbs, and a sunken cadaverous look of the face.

Prognosis.—When a child is still-born from syncope the prognosis will depend entirely on the severity of the attack, exactly as it would do in an adult, but in syncope depending upon anæmia, the prognosis is particularly grave. The type of this class is the pale, flaccid, and wilted child (generally called asphyxiated), which we may rouse up by remedial means until it breathes and cries, and then relapses and soon dies.

Treatment.—I know of no practice in a teacher of medicine which proves more pernicious and more perplexing to the student than that of "splitting hairs," in describing the diagnosis and treatment of diseased conditions. It is my wish to avoid this charge here, and I will do so by endeavoring not to surfeit your memories by a number of useless rules which will not apply at the bedside. Do not understand me as advising you to occupy the precious minutes which follow the birth of a still-born child, in trying to determine whether or not the dangerous state before you is the result of asphyxia or syncope, but in either case adopt this as a rule: *the first thing needful is respiration; establish it artificially if you cannot make it occur naturally.* The treatment of the two conditions is in fact exactly the same, with this additional precept in a child whose pale, bloodless, and wilted look leads you to believe in the existence of anæmia; do not cut the cord, but while an assistant causes it to respire, take the funis in your fingers and press all the blood which it contains slowly and steadily into the child's body. In other words, "strip the cord" towards the child so as to empty its vessels and cause their contents to flow into the system of your anæmic patient.

If the views which I have here offered you are correct, this treatment will certainly be appropriate, while if they be incorrect no harm will accrue from it (I assert from repeated trials) unless the child be suffering from cerebral congestion or apoplexy, and this would scarcely be confused with the state of which we have been speaking.

The funis is often very long, and almost always long enough to contain a sufficient amount of blood to endanger the life of a newly born child, should its capacity be removed from its circulation. By the method I have recommended, you give all this to the child, and in many cases you will see excellent results from it. I remember a case to which I was called by one of my students, in which the following clear and curious corroboration of this view was observed. The child, which appeared to me to be the type of a syncopic and anæmic infant, was with difficulty made to cry very feebly, and by artificial respiration to breathe at long intervals. As soon as a little blood was forced into its body from the cord which I held in my hands, it would show much more obvious signs of restoration, and as soon as pressure on the cord was removed it would relapse. This I repeated several times to my own satisfaction, and to that of the gentleman who was with me.

It is needless to remind you of the care and gentleness with which this transfusion into the child must be performed, for you will at once perceive that rashness and haste might rupture some of the vessels of the fœtal portal system.

Lastly, I would draw your attention to the fact that you do not restore blood to the circulation of the child for the purpose only of arousing it from syncope, but to overcome the state of anæmia into which it has fallen; for if the latter condition continued, removal of the former would accomplish nothing.

CEREBRAL CONGESTION.

The third cause of death to the neonatus is cerebral congestion, an accident which has been unfortunately confused with apoplexy, and described under that name.

Again disclaiming any intention of multiplying your troubles by multiplying divisions, I would advise you to fix clearly in your minds the fact that in the fœtus, cerebral congestion and apoplexy are in their pathology no less unlike than the same conditions are in the adult, and we have no more justification in confounding them. The differential diagnosis between these two lesions is, I believe, often impossible in the young child; for the effusion generally taking place from the vessels on the surface of the brain, and according to Cruveilhier most commonly from those on the surface of the cerebellum, paralysis does not occur, nor are the other symptoms of apoplexy in the adult generally noticed. Of what use then, you may ask, is it to describe them as different conditions? I answer, because in many cases we may make a

correct diagnosis, because the prognosis of the case will rest upon it, and because here as elsewhere, if we ever wish to improve in the treatment of diseases, we must certainly first begin by understanding well their true pathological characters, and classifying them accordingly.

Causes.—The causes of congestion of the brain in the fœtus are these:

(*a*) Face presentation.

(*b*) Constriction of the cervical vessels by the cord.

(*c*) Retarded delivery of the shoulders.

(*a*) Decidedly the most common cause of death in face presentations is the bent and obstructed state of the vessels of the neck, which in the veins prevents the blood, which still goes to the brain through the less compressible arteries, from again returning to the heart. Let any one who doubts this press his head violently backwards until the occiput touches the spine, and retain it in this position for a few minutes, and he will soon be convinced by the symptoms which will show themselves that active congestion of the brain is occurring. The blackened, bloated, and blood-shot face of a child coming by this presentation, will also fully assure you of the correctness of this view, and should you be so unfortunate as to lose the child, its peculiarly convincing appearance will never let you doubt it more. Alive or dead, the face-delivered child looks much more like a sot just delivered from a watch-house, than an innocent delivered from its mother's womb. This arises in part from the congestion of the vessels above the point of obstruction, and in part from the compression of the face in the vagina, and the formation upon it of the caput succedaneum.

(*b*) The cord is sometimes wound two or three times around the neck of the child so as to constrict its vessels and congest the brain and parts above the ligature. Such an accident might likewise produce asphyxia, but my belief being that it more commonly proves deleterious by acting on the cerebral circulation, I have preferred mentioning it here. It probably causes death, however, by both means at once, exactly in the same way as we unfortunately often see it occur in the barbarous and cruel mode of capital punishment resorted to in this country and in England.* Here again the veins are compressed and their flow checked, while the more vigorous current through the arteries still goes on until, with the coincidence of apnœa, death is produced.

(*c*) When the head has been delivered and the shoulders are stopped in their passage, the child may breathe and cry from ten to twenty minutes without danger. But sometimes the chest is so much compressed by the parts within the pelvis, that respira-

* Dr. Reid in his *Physiological Anatom. and Patholog. Researches,* and others who disbelieve the possibility of increase of the fluids within the cranium, deny the existence of cerebral congestion as a result of hanging.

tion cannot go on, and it may die under these circumstances either from asphyxia (the nearly empty uterus crumpling or detaching the placenta), or from cerebral congestion, the soft parts of the mother's passage closing the canals of the veins.

Prognosis.—The prognosis in congestion of the brain is favorable whenever the heart is felt, or discovered by auscultation, to be beating.

Symptoms.—The symptoms of cerebral congestion leave it by no means difficult of diagnosis. They are a blackened and congested face, puffed and violet lips, protruding eyes, and a generally swollen appearance of the head.

Treatment.—The treatment of this condition is embodied in these three principles:

1st. Let blood flow freely from the severed cord to the amount of one ounce or more, as the case may require.

2d. Establish artificial respiration.

3d. Avoid the warm bath.

APOPLEXY.

We now come to the last cause of fœtal death—apoplexy. The delicate blood-vessels of the brain distended by the fluid which, forced into them by the systolic action of the heart, cannot return on account of obstruction, now yield, and effusion takes place into some part of the organ, the membranes, ventricles, or substance. Any of those causes then which produce congestion, may, by being continued or exaggerated, cause apoplexy. In addition to these must be mentioned injuries done to the head by violent uterine efforts, forcing it against some prominent point in a deformed pelvis, and injuries from the forceps or vectis. Anything in fact which would cause fracture in the fœtal skull would likewise be sufficient to cause apoplexy, though of course they do not depend upon each other, and one may occur without reference to the other.

Prognosis.—The prognosis of apoplexy is very grave. The child cannot be resuscitated, or is resuscitated and remains stupid and listless for some hours or days, and then dies. At other times convulsions supervene and death soon follows.

Symptoms.—We may suspect the existence of apoplexy when those symptoms just mentioned under the head of prognosis are superadded to those which follow mere congestion of the brain, and we should make our prognosis accordingly.

Sometimes, however, hemiplegia occurs, and the existence of apoplexy is thus well established. A case of complete hemiplegia caused by injuries done to the skull by the forceps, was mentioned to me as occurring in his practice by Dr. James O'Rourke, of this city. The child remained paralyzed for many months and ultimately recovered.

It may be well for me to state here that the facial paralysis

observed at times in children delivered by the forceps, is due not to a lesion occurring in the brain, but to compression of the portio dura of the seventh pair of nerves as it emerges from the skull through the stylo-mastoid foramen.

To give you, upon closing this part of our subject, a resumé of the treatment I have advised, I would say,

1st. Let the lesion be what it may, establish respiration.

2d. Should signs of a cerebral congestion or apoplexy exist in addition, let blood from the cord.

3d. Should the appearance of your patient lead you to believe it anæmic, "strip the cord" towards its body before cutting it.

HOW SOON SHOULD WE DESPAIR OF THE RESUSCITATION OF THE STILL-BORN CHILD?

This question is one of much greater import than may at first be imagined, and requires a careful and well-weighed reply based upon accurate clinical data.

Until recently I have been in the habit of stating that I had never seen a child resuscitated after the heart's action had entirely and certainly ceased. The following case, however (for the opportunity of observing which I am indebted to the kindness of Dr. John W. Francis, of this city), invalidates the statement:

Mrs. R., an impressible and nervous primipara, in the ninth month of pregnancy, was taken with uræmic convulsions of the gravest character on Tuesday, at 4 P.M., without any signs of coming labor. Between this hour and 9 next morning she had eight eclampsic seizures of great severity; in the intervals she remained comatose, and after the attacks the tongue was left in a condition which was aptly described by an attending friend as "shockingly mangled." The pulse throughout the later periods ranged from 140 to 150 to the minute, and for many hours death was momentarily expected.*

By 9 A.M. on Wednesday, artificial dilatation of the os was fully established, and introducing the forceps within the uterus, I delivered without difficulty.

The child was to all appearance perfectly dead; Dr. Francis and I both remarking that it had the appearance of a child which had been dead for some time. To the most carefully practised auscultation not a sound of the heart could be heard, even after cold aspersion, slapping, blowing, and the usual stimulants of fœtal functions had been practised. Leaving the mother in the hands of Dr. Francis, I at once began to exert myself to discover whether a latent spark of life might not be developed in her offspring, and the means which have been laid before you in this lecture were carefully and speedily instituted. For fifteen minutes the "ready method" was practised without one sign of returning animation; so unsuccessful were my efforts indeed that the friends of the lady seemed

* This state of the pulse was undoubtedly in part due to anæsthesia.

to regard the idea of a continuance as entirely useless. Removing the body to an adjoining room, I continued my efforts (pro forma rather than from any well grounded hope of success), until about eight or ten minutes had elapsed, when the child gasped feebly as you have seen a young chicken do when about expiring. My flagging efforts now revived, and in about three quarters of an hour from the time of the birth I had the satisfaction of astonishing those around the mother's couch by returning to them with a living child. I confess that no one there was more surprised than I at the result of efforts which I should never have have been able to have persevered in had I been without some one able to take charge of the mother after her delivery. The child is now living, and, with its mother, is in excellent condition. It may be well for me to remark that after the commencement of my efforts at resuscitation, I did not again examine the heart, and I am therefore unable to say how soon it resumed its functions. In saying that 25 minutes elapsed between the delivery and the appearance of the first "sign of returning animation," I allude to signs visible.

My object in relating to you this case is to impress upon you the importance of *always* attempting resuscitation, and of always *persevering* in your attempts for a length of time in every still birth unless the putrid state of the child places success beyond the possibility of attainment. An examination of the evidence upon this point makes me feel assured that many a child has been put aside as dead, in which the smouldering embers of life might have been fanned into a flame by a reasonable amount of exertion on the part of the obstetrician. The sources of failure are undoubtedly often the employment of improper means of resuscitation or want of perseverance in the employment of those which are proper.

I cannot, I think, better engrave these precepts upon your memories than by bringing to your knowledge a few well authenticated cases which, with a number of like ones, you will find embodied in an article in the Feb. No. of N. Y. Medical Monthly from the pen of an industrious and capable observer, Dr. Wm. C. Rogers, of Green Island, Albany Co., N. Y.

Case 1. A woman, with the intent of infanticide, buried her child, just after delivery, in the earth. After 45 minutes had elapsed it was discovered and disinterred. It was found lying on the placenta, which was still attached, and was restored to life.—Quoted from *Gaz. des Trib.*, Feb. 20, 1850.

Case 2. A woman died in labor. Her attending physician, Dr. Thornton, reached her after death and delivered by version, the child being delivered 45 minutes after death. It was still, but was resuscitated after artificial respiration had been practised for half an hour.—Quoted from *Cincinnati Lancet and Obs.*

Case 3. A woman died in ninth month of pregnancy: the Cæsarian section was performed 15 minutes after death and the child resuscitated.—Quoted from *Med.-Chir. Trans.*, vol. xii.

Case 4. A woman died in eighth month; child delivered 15 minutes after, was resuscitated, and lived.—Quoted from *Berlin Med. Zeit.*

Case 5. Dr. J. Foster Jenkins, of Yonkers, N. Y., delivered a child, the funis of which had prolapsed into the vagina and been pulseless for 25 minutes before birth. After birth no effort at resuscitation was made for 30 minutes, and after *two hours* of exertion the child was restored to life.

This array of facts might be trebled in length, but to what purpose? One well recorded case would serve to prove that *it is possible* for the neonators, born still, to be restored to life even after passing an hour, and probably more, without respiration, under the most unfavorable circumstances. It is easy to scoff at such evidence and meet it with the smile of incredulity, but you will not be so inclined when I tell you that the most remarkable of them are reported by gentlemen whom I know well, Drs. Jenkins, Thornton, and others, and that more reliable observers do not grace our profession. Receive these facts in the proper spirit, namely, by a candid avowal that he who neglects to use every means to resuscitate a still-born child which has been delivered within an hour from the time he sees it, *is committing a flagrant dereliction of duty.*

Another important deduction may be drawn from the study of these cases; it is with reference to the period which should elapse before we desist from our attempts at restoration if no appearance of animation crown them. The average period intervening in Dr. Rogers's cases between birth and the establishment of respiration was 35 minutes and 30 seconds. In one case 90 minutes, in two 70, and in several 45 elapsed before the respiratory process was established.

How forcibly do these facts appeal to the conscientious and scientific obstetrician, how plainly do they teach him, nay *command* him to persevere in his efforts, hoping even against hope, until all chances of success have vanished!

As I have already stated, in the vast majority of cases where the fœtal heart has ceased to beat your efforts will fail to accomplish the end in view, but one success outweighs a thousand failures, and the demand upon our exertions remains unshaken. He who neglects to use every means in his power to save life is almost as culpable as he who destroys it, and who can tell whether the case which falls to his lot might not be attended with the same success as blessed those of Jenkins and Thornton, if the same energy and perseverance were brought to bear upon it.

For your guidance under such circumstances it is difficult to lay down exact rules. Those which I would venture to offer you are these:—

1*st.* Should the heart be motionless and the child be to all appearance entirely and certainly dead, practise artificial respira-

tion and the other means advised for from 15 to 30 minutes: should the heart, after this lapse of time, not have acted, there are no reasonable grounds for hope.

2*nd.* Should the heart act ever so feebly *let no limit bound the period of your labors*, but continue them so long as the faintest throb be perceptible to the ear when placed against the chest.

3*rd.* Should the heart have beaten during your efforts, or at their commencement and have subsequently ceased, continue them for an hour at least, before relinquishing the child to the possession of death.

MEDICAL SOCIETIES.

NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, MAR. 21, 1860.—JOHN WATSON, M.D., PRESIDENT, IN THE CHAIR.

DR. JOHN O'REILLY read an interesting paper on *The Nervous Centres of Animal and Organic Life.*

The PRESIDENT remarked that in discussing the paper, the following points should be noticed:—How far the suggestions were original, in what the originality consisted, and what statements required to be substantiated.

DR. E. R. PEASLEE next arose and said—Dr. O'Reilly has manifested a very praiseworthy enthusiasm upon this subject in bringing this and his previous papers before the Academy; and though I have not had the pleasure of listening to all of them, I still have the impression that they have not been properly remarked upon. This has been probably due to the lateness of the hour, as in this instance, and it is more particularly for this very reason that I refer to it, in order that at least the subject may receive some notice.

It is certainly easier to make statements in regard to the functions of the nervous system, without incurring criticism, and to make them with a greater latitude of expression, than in any other department of the science of Medicine.

It is a very difficult thing oftentimes, even to one who has paid a good deal of attention to the subject, to determine, when he hears a proposition announced, whether it is a new one or not.

Some persons who have made the nervous system their special study, frequently make assertions which at first appear entirely new, but are found, upon examination, to be mere statements of facts the particulars of which have been familiar to us for years. I am not sure that I perfectly understand all the propositions enunciated by Dr. O'Reilly; some of them, however, strike me as being new.

There is another reason why there is a difficulty in meeting an assertion if it be supposed to be new, when, at the same time, it is thought to be incorrect—and it is this: if it be fortified by experiments, the experimenter will interpret such in only one way, to meet the end he has in view, that is, to prove his theory; while another man conscientiously gives the so-called proofs an entirely different explanation, so that, in the end, the views of the former will be directly opposed by his experiments. I should be inclined to do that in regard to some of the experiments adduced by Dr. O'Reilly this evening. In so doing I may be wrong, while Dr. O'Reilly is right, or we may both be wrong.

In regard to the novelty of the idea that the circulation is controlled by the organic nervous system, it was first announced by Bichat, 58 years ago, I think. He first maintained that the organic nervous system was distinct from the cerebro-spinal; and from that time to this, certain functions, such as digestion, absorption, the circulation and aeration of the blood, nutrition and secretion, and even generation, as a modification of nutrition—have been termed *organic.*

All these then were regarded as organic functions, being under the control of the organic system so-called. But we must first understand what is meant by the organic system as spoken of by him. Bichat understood by it that series of ganglia on either side of the middle line of the body from the cranium to the os coccygis, commencing with the ganglion of Ribes on the anterior communicating artery of the cerebrum, and terminating in the ganglion impar —this series, thus arranged, constituting a long and very narrow ellipse. These ganglia, with the nerves originating from them, are what he understood by the organic nervous system. He supposed it to be entirely independent of the cerebro-spinal nervous system, notwithstanding they are connected by the filaments termed the *rami communicantes.* That idea prevails to the present day; they are to all appearance *anatomically* distinct, and hence it is inferred that they are physiologically distinct. But I conceive that this idea of the complete isolation of the one system from the other is entirely unfounded.

Again, it is very generally assumed that every nervous trunk is a distinct individual organ, and especially when we come to speak of the great sympathetic nerve, that *its* branches at least have only a single and special endowment, entirely distinct from that of any nerve termed cerebro-spinal.

But on investigation we find that all the trunks from the spinal cord possess a double function, *motor* and *sensory*, and that the same is true in most instances of every subdivision of these trunks, until we come to the minutest branches. Indeed, we cannot certainly claim for the nerve a single function, until we come down to the terminal one, containing only single nerve fibre. The *fibre*, therefore, and not the nerve, is the unit. The nerve itself is composed of more or less of these fibres. This is as true of the

great sympathetic as of the cerebro-spinal system. When we find a nerve trunk composed of two different kinds of fibres, we have a right to the inference that such a nerve has a double function: hence, if we are ever to understand the matter perfectly, we must do so by examining individual fibres and not nerve trunks.

If you examine the individual fibres in the body, you find that there is a diversity in size from the $\frac{1}{1200}$th to the $\frac{1}{24000}$th of an inch in diameter, so that in one case a nerve fibre may be 20 times the diameter of another. There is every reason to believe that the coarsest fibres are motor, and that the very finest are not motor or sensory, and therefore manifest a function said to belong to the great sympathetic. We cannot say positively from the mere size of a fibre whether it is motor or sensory; but the intermediate ones are probably, as a class, sensory.

Speaking histologically, the great sympathetic fibres are an arrest of development, for the other fibres were once equally fine —and we cannot suppose that it performs so high a function as do the *sensory* fibres. But you do not find a single branch of the great sympathetic nerve which does not contain all these varieties of fibres—some have a greater proportion of the finest fibres than others. In the greater and lesser splanchnic nerves, the finest fibres very much predominate. Those branches from the hypogastric, now called pelvic plexus, which are sent off to the vagina, contain a preponderance of intermediate fibres, while those branches from the same source to the uterus are made up almost entirely of the finest; and as we should expect, the former canal manifests a much greater sensibility, while the uterus has little sensation except at the cervix, and around the os.

To return again for a moment to the ganglionic system. Bichat maintained that every ganglion is in itself a centre, and I believe that idea is held at the present day. But if so, the ganglia on the posterior roots of the spinal nerves are each and all of them centres, and therefore are, physiologically, parts of the great sympathetic system. And we cannot avoid the conclusion that all the trunks of the spinal nerves are, in some way, endowed with the function to some extent which is usually spoken of as peculiar to Bichat's great sympathetic system.

For instance:—Mental emotions are well known to affect the secretions. A fit of anger in a nurse will sometimes so modify the secretion of milk, that the latter will prove fatal to the infant in a very short time. And this is to be accounted for only on the supposition that some of the finest or sympathetic fibres are distributed to the lacteal gland in the intercostal or thoracic nerves. We cannot then, at the present day, so completely isolate the two nervous systems as Bichat and most others have attempted to do.

In the lowest animals we find very few of these ganglia; in the articulata, there is one with its radiating branches of nerves for every segment. When we get as high as the vertebrata, and

begin at the lowest step in the scale with the *amphioxus paradoxus*, we find not only a spinal cord in addition to the ganglia, but also a ganglion constituting the first rudiments of a brain. A little higher in the scale we find still more ganglia; higher still we find four ganglia on each side; highest of all, as in man, all these acumulated ganglia are blended together, forming, with other additions, the whole encephalon. All animals having ganglia or centres, send off two sets of nerve fibres from them. That animal which can merely swallow, and has a ganglion upon the œsophagus, has at least two kinds of fibres. There are animals in which we find no nerves at all, though some muscular movement can be seen in them; and some have inferred that the nervous system exists in them in a diffused or non-developed state. This, however, is a begging of the question. The human heart beats some time before a single nerve fibre is developed. Do we then say that the heart's action depends upon the nerves, organic or otherwise, which are distributed to it? Rather, that the fully formed heart needs the nervous influence, while at first it does not. Motions of the fœtus occur before the spinal nerve trunks are united to the cord, showing that the muscles may contract independently of the nerve power.

Here, again, we are compelled to fall back on histological investigations, and come to the conclusion that, in the very lowest animals, if we have a centre or ganglion, we shall find two classes of nerve tubes coming off from it. Some say that in these animals there is no sensation, but we have no means of positively proving the assertion; pain may be felt, and yet no sign that we can appreciate be shown.

As we ascend the scale, other centres are added until, finally, a fusion occurs in the cranium as before explained.

On examining the pituitary body which has been alluded to this evening, the microscope shows that about one half of it is glandular, a structure precisely similar to the other ductless glands (as the thyroid body and supra-renal capsule); while the rest is nervous. This also is then a centre, like the other ganglia, of the sympathetic system.

If you decapitate an animal, you sever the communication between the medulla oblongata and the heart; and if below the superior cervical ganglion, you also sever the branches from it to the cardiac plexus. The latter nerves, however (the organic), may still control and continue the heart's action. But if you crush the encephalon (and therefore the medulla oblongata) at once, the heart, as Dr. Brown-Séquard proves, instantly stops. Some cerebro-spinal fibres are therefore sent to the heart from the medulla oblongata in the branches forming the cardiac plexus.

Of course this is a matter that cannot here be gone into fully. I can only make some suggestions, and conclude by saying, that it is extremely difficult, in the present state of science, to determine the function of the different portions of the nervous system, and that

we must come to admit this fusion of the two systems with each other.

Dr. O'Reilly mentions the fact that when an animal is beheaded the mouth still opens and closes, as in the act of breathing. I should, however, interpret this fact as bearing against his theory. The action of gasping depends on muscles supplied by nerves from the medulla oblongata, and at the present day, it must be regarded as a reflex or diastaltic action, and not dependent upon the organic system of nerves. It has been observed that criminals, after being beheaded, have gasped in like manner, and have turned their eyes in different directions, as if noticing those around them. This latter, however, is an action of the same kind, and is not to be regarded as accompanied by consciousness. These motions continue for a very short time, and only while some blood still remains in the encephalon.

Dr. O'Reilly, in reply to Dr. Peaslee, remarked, that due credit was given to Bichat. He stated that the paper read that evening was the sixth of a series, and was only the *resumé* of the preceding ones. In regard to the arguments put forth by Dr. P., they had all been answered in the previous papers.

Dr. Peaslee did not see how the views of the last paper could be consistent with the former ones, if such was the case.

Dr. Watson remarked that there was one point in the paper that had been overlooked, namely, in reference to the existence of ganglia in the substance of the heart, as demonstrated by Mr. Lee.

Dr. A. K. Gardner presented specimens of water from the chalybeate spring in Flushing. He stated that the water was very liable to become decomposed, even if it had been bottled but a day. To remedy this he suggested the propriety of charging it with carbonic acid gas, which being done, had the desired result of preserving the solution a very considerable length of time. The following is the proportion of ingredients in a gallon of the water, the result of an analysis made by Dr. Chilton.

Chloride Sodium + " Calcium, " Magnesium,	1·45
	·81
Bi-Carb. Magnesia,	1·08
" Lime,	·86
Proto Carb. Iron,	3·20
Sulph. Lime,	·12
" Soda, " Magnesia,	·70
Organic Matter,	·32
Silica, Alumina, etc.,	·14
	8·68

Free carbonic acid, 4·268 cubic inches. In conclusion he recommended it as a valuable tonic spring, which had the advantage of

all others, both to the doctor and patient, of being near the city.

Dr. A. H. Stevens stated that he knew of a chalybeate spring 15 miles above Flushing, and another near Woodbridge, N. J. He had often taken of the latter, and could testify in regard to its tonic properties. He stated that such springs were situated mostly where bog iron ore abounded.

The Academy then adjourned.

Stated Meeting, April 4, 1860.—John Watson, M.D., President, in the Chair.

After the reading of minutes, reports of Secretaries, etc., several resident members were elected, and also *viva voce*, Drs. James Jackson, of Boston; Matthias Spaulding, of Amherst; Eli Ives, Sen., of New-Haven; William Gibson, of Philadelphia; and Reuben D. Mussey, of Cincinnati, Ohio, were elected honorary members. A package of books, *Scripta Academica*, and proceedings of the meetings of the Royal University of Christiania, Norway—sent through the Swedish and Norwegian Consul—were presented to the Society, which, on motion, were ordered to be deposited in the library—the thanks of the Academy and a complete copy of its proceedings to be presented to the Royal University, and that this body be enrolled as in correspondence with the Academy, and all its proceedings be duly transmitted to them.

OSTEO-PLASTIC OPERATIONS.

Dr. Douglas then proceeded to read from the proofs of the *American Medical Monthly* for April, a paper on osteo-plastic operations by B. Langenbeck, professor of surgery, Berlin, translated and communicated by Wm. D. Holcomb, M. D. The points of the paper were to show that defects in bone may be repaired in a manner resembling rhino-plastic operations: *First*—by bringing together and uniting the borders or edges of the fissure in bone; *Second*—by transplanting a neighboring portion of bone to supply the defect; *Third*—by the reunion of a fragment of the detached bone; *Fourth*—the preservation of the periosteum and the surrounding soft parts; *Fifth—the transplantation of the periosteum upon defects in bone.* This last feature was the novelty of the paper, and is stated by the author as follows:

The experiments of Ollier upon animals (rabbits) have greatly enlightened us in regard to the *power of the periosteum in the reproduction of bone.* He separated flaps of periosteum from the tibia, in such a manner that they remained attached to the bone only by a small strip, and inserted the free end between the muscles of the limb. After a comparatively short time, an *exostosis* had sprung from the flap thus transplanted, the growth of which did not cease, even when, a few days after the transplantation, the

strip connecting it to the parent bone was divided. So active was the *independent power* in the periosteum of *forming bone* that, when flaps of it were entirely detached from the tibia, and inserted into the axilla of the same animal, or of another of the same species, it continued to produce bone. To what extent these observations may be applicable in operative surgery, experience must determine. *A priori*, we should expect that *human periosteum* will perform its functions as well, when it can be transplanted under as favorable circumstances, as in the cases of Ollier—that is, if we can convey to the living tissues detached periosteum, before it has lost its temperature and natural vitality, and insure immediate reunion of the wound. My first experiment was made by transplanting the *pericranium* (from the os frontis) to the *nose*, to reproduce the ossa nasalia, which had been completely destroyed by disease. Notwithstanding it was evident to me that this experiment, carried on as circumstances required it to be, would be regarded as *unphysiological*, yet that could not deter me from making it, since no unfortunate result could occur to the patient.

I can form no opinion as to the termination, yet I do not hesitate to communicate at this time the principal features of the operation, at the same time, however, calling attention to the unfavorable circumstances under which it was necessarily performed.

The paper then concluded with a case treated in accordance with these views a few days only before it was written, and the result of which was not entirely settled. Dr. Holcomb, who had seen the operation, thus speaks of its result in concluding the paper:

In case first, division fifth, in which there was a *transplantation* of the *pericranium*, to supply a defect in the nose, a most satisfactory result has followed. There was complete union by first intention. There was no morbid secretion from the under (pericranial) surface of the flap, which it was greatly feared would be troublesome; but this surface seemed to take on the character of mucous membrane. The apprehended exfoliation of the os frontis did not take place, free granulations having quickly sprung directly from the bone, so that now only a small spot remains uncovered by new skin. In fact, Prof. Langenbeck says it has cicatrized as soon as in the cases where the pericranium was left. The nose feels firm, and has a regular form. A small portion of the flap (which was removed in order to raise the nose up a little) was examined under the microscope, and found to contain an abundance of osseous and cartilaginous cells. Several other osteoplastic operations have been performed since the above paper was written; the history of which I will endeavor to communicate at a later period.

The President, after alluding to the very interesting character of the paper, called upon several gentlemen for remarks upon it.

Drs. Buck and Batchelder had both seen cases of removal of bone where, the periosteum being left, the bone was renewed.

This was now a common operation. Had no experience, however, in the transplantation of this membrane.

Dr. Douglas said that since the experiments above recorded by Ollier had been made, he had gone much further, and had not only removed the periosteum from one portion of an animal and inserted it into another, but that he had even inserted into another animal of the same species, and in several cases from animals that had been dead ten, twenty, and thirty minutes, and that the removed portion had grown and produced new bone. He did not see why like experiments might not be equally successful upon the human animal.

Dr. Peaslee had not heard the paper read, but upon the President's repeating its leading principles, thought that the speculation was a beautiful one, but feared that, like such dreamings generally, it would prove impracticable. He did not imagine that it would succeed, yet if there had been several successful results from its trial, all theory on the subject was useless. He thought that it would be found very difficult to produce a flap through which a sufficient circulation could be produced to support such a transferred body.

Dr. O'Reilly had seen several cases where bone had been renewed, where the periosteum remained.

Dr. Gardner inquired what was the limit to the growth of the bone from the transferred periosteum. Was it limited to the portion into which it was transplanted? or did the periosteum of every locality have a type limit, and were its powers of reproduction guided by its original character—as in a case narrated in the paper, where the ulna was entirely renewed, with all its perfectly traceable processes? If so, and the periosteum taken to form the new nose was taken from the radius (or ulna), would there not be danger that one of the bones would be reproduced in the nose?

The President said that it was impossible to answer this query, as there were no facts upon which to base an opinion. He said that there was nothing novel in the statement of the paper, that the periosteum in its natural situation would renew the bone—this was often seen in our hospitals; but that the transference of the periosteum was a new idea, and he did not think that it would be found successful. He had not seen the bone renewed after trephining, even where the periosteum was carefully retained uninjured, and never, except in young children, was the cavity filled up by bone. This being so, he thought there was even less probability when the pericranium was twisted and removed to some little distance from its original locality. Injury was ever done to the skin, and the hair was not found to grow upon the scalp which had been twisted and drawn down.

Dr. Douglas, upon the statement of the President that there was nothing novel in the reproduction of bone from periosteum, remarked that Mr. Flourens, as the result of his experiments upon animals, had formularized the statement that where periosteum is

preserved there will be a renewal of bone; that M. Sedillot, of Strasburg, had denied that there was a well authenticated case of true osseous matter being thrown out from preserved periosteum, but rather an osseous tissue.

LITHOTOMY.

Dr. Buck, of the New York Hospital, then exhibited before the Academy a vesical calculus of extraordinary size, successfully removed by Lithotomy. The history of the case was as follows:

J. D., aged 65 years, born in England, but a resident of this city for more than thirty years past, was of medium stature, stout built, and ordinarily weighing about 180 pounds. During the cholera season of 1849, Mr. D. was attacked with what was regarded at the time as colic, but the sequel proved that his symptoms had been produced by the descent of a calculus from the kidney into the bladder. Since this occurrence he has suffered uninterruptedly from symptoms of a vesical calculus, varying in severity. The existence of the stone in the bladder, however, had never been ascertained by sounding, although Mr. D.'s family, as well as his medical attendant, had often urged his submitting to an examination.

The increasing severity of his sufferings for several months past at length overcame his repugnance, and determined him to have recourse to surgical aid.

On the 10th of January last, an explorative examination was made. A steel sound with a short curve was introduced, and immediately encountered the stone on entering the bladder. The prostate gland examined per anum, was found to be uniformly enlarged and indurated as far as the finger could reach. This condition of the prostate rendered it impossible to distinguish the stone by the touch and appreciate its size. The patient was at this time recovering from an exacerbation of his bladder symptoms, of great severity. Micturition was still very frequent and painful, though on the decline. Appropriate means were now employed to allay the irritability of the bladder, preparatory to the operation of lithotripsy, such as anodyne enemata, warm poultices to the pubes, and warm hip-baths. On the 23d, 27th and 30th of January three successive attempts were made to perform the operation of lithotripsy. As a preparatory step, tepid water was injected into the bladder, but so great was the irritability, that after two or three ounces had been cautiously thrown in, all attempts to inject more were resented by the most energetic contractions of the bladder and the expulsion of its contents. The introduction of the lithotrite was effected without difficulty, but the utmost circumspection was requisite in manipulating with it. The open blades could only be made to graze the surface of the stone, but could not seize it. Though not more than two or three minutes were employed in each attempt, that is, in manipulating with the lithotrite within the bladder, two of the operations were succeeded within a few hours by a smart rigor, followed by fever and sweating. The effect of these trials was to aggravate very considerably the irritability of the bladder, as was evinced by the increased frequency and pain of micturition, and the greater quantity of muco-pus thrown down by the urine. The impossibility of disturbing the bladder to a sufficient degree to permit the safe manipulation of the instrument within its cavity, and the large size of the calculus, were conditions that precluded the use of lithotripsy, and left no other alternative but a resort to the operation of lithotomy.

All our efforts were therefore now directed to prepare our patient for this operation as early as possible. The absence of any symptoms indicative of renal complication, as well as freedom from constitutional reaction, were regarded as encouraging features in his case. On the 23d February, the operation of lithotomy, according to the lateral method, was performed as follows: After subjecting the patient to the influence of ether, and securing him in the usual manner, the lateral incision was made and the prostate gland divided upon a grooved staff. The depth of the incised track was equal to the length of the index finger. As was to be expected, the extraction of the stone proved the most difficult step in the operation. A medium sized pair of forceps was introduced and readily brought in contact with the stone, but the scanty space around the stone made it difficult to seize it. To accomplish this object, the blades being placed so as to dilate laterally, were tilted high up towards the apex of the bladder, and then being opened widely, were depressed upon the stone and astraddle of it. After seizing it, and while making traction, it was found necessary to enlarge the section of the prostate, which was done by a very cautious application of the knife at the inferior angle of the incision, and also by a new incision outward through the left edge of the first incision. Renewing the traction, it was discovered that the long axis of the stone lay obliquely between the blades of the forceps. The grasp was therefore abandoned, and the forceps withdrawn. A large sized pair was then substituted, and the stone seized by the same procedure as at first. By the application of steady and powerful traction, kept up for a certain time, the calculus was at length disengaged and brought away, having been grasped edgewise instead of flatwise, but with its long axis corresponding to the axis of the blade. Tepid water was freely injected into the bladder through a catheter passed per urethram. The hæmorrhage was moderate, and ceased soon after the completion of the operation. The ether acted kindly, and maintained complete insensibility. On recovering from its effects, Mr. D. complained of very severe pain and distress in the region of the neck of the bladder, and became very restless. Thirty drops of Magendie's solution of sulphate of morphia were given and soon quieted him. In the evening he had recovered from the shock of the operation, and a pleasant reaction had taken place; the pulse was at 88. The urine escaped freely from the wound, and was no longer stained with blood.

Poultices of flax-seed meal were directed to be applied to the pubes, and ten drops of Magendie's solution to be given every three hours.

On the following day, at evening, the pulse reached the maximum of frequency, and was 96 per minute. The heat of the surface was moderate.

2*nd Day.*—The pulse had subsided to 86. Patient in good spirits.

3*rd Day.*—The urine flowed involuntarily per urethram alone, and none escaped from the wound. At my request, however, the patient projected a jet from the meatus by his own effort to the amount of nearly three ounces. The same evening he had acquired control over his bladder, and voided its contents once in an hour by his own efforts, nothing escaping from the wound or per urethram in the intervals.

10*th Day.*—Since the preceding report, patient's progress has been favorable. The pulse is at 74. The urine has continued to pass per urethram exclusively, and under control; at times it has been stained with blood. This evening it began again to escape through the wound alone, none flowing from the meatus.

18*th Day* (March 10th).—Patient sits up and walks about his room. The urine is gradually resuming its natural channel, and but little escapes through the wound, which is steadily healing and diminishing in size.

On the 24th March Mr. D. dined with his family, and on the 30th rode

out. The urine has regained its healthy properties, and no longer deposits muco-pus.

On the 7th April (44th day), the wound has entirely healed. Mr. D.'s general health has very much improved. When quiet in the sitting or recumbent position, he has control over the functions of the bladder, but when walking about, the urine dribbles from him involuntarily. It is hoped the neck of the bladder will still regain its power so as to correct this evil.

Remarks.—This case is certainly remarkable on account of the size of the calculus and the favorable and rapid recovery following the operation. The weight of the stone is ℥ iv. ʒ iij. gr. xv.; its dimensions are as follows: Length $2\frac{15}{16}$ inches; width $2\frac{1}{16}$ inches; thickness $1\frac{17}{32}$ inches.

Circumference, lengthwise along the edge, $8\frac{1}{16}$ inches; do. do. over the surface, $7\frac{1}{2}$ inches; transverse, $5\frac{3}{8}$ inches.

The ample dimensions of the urethra and the facility with which the lithotrite was introduced, notwithstanding the enlargement of the prostate gland, were conditions favorable for the operation of lithotripsy. But, on the other hand, the extreme irritability of the bladder, which forbade its distension to such a degree as would allow space for the manipulation of instruments within its cavity, together with the extraordinary size and hardness of the stone, rendered the application of the crushing operation in this case inadmissible, and left no other alternative for the relief of the patient but lithotomy. The choice of the particular mode of operating in this case was determined by my own preference for the lateral method, and without reference to the extraordinary dimensions of the stone: for this was not appreciated before the operation with accuracy, though it was inferred to be of large size from the fact that the blades of the lithotrite could only be made to graze its surface but not to grasp it, and also from the long duration of the symptoms.

The meeting then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

REGULAR MEETING FEB. 8, 1860.—DR. KRAKOWITZER, PRESIDENT.

Reported for the New York Journal of Medicine.

BY GEORGE F. SHRADY, M.D., SECRETARY.

Cystic Degeneration of Kidney.—Dr. Sayre presented a specimen of cystic degeneration of the kidney, with the following history:

Dr. W. H——, aged 39, of large and robust frame, had slight hæmorrhage from the urethra about eleven years ago, accompanied with intense pain in the region of the right kidney. The blood continued to pass in clots for several days, accompanied with great pain. He was leeched, and bled from the arm very freely, for three days in succession. Was confined to his bed about 6 weeks, and convalesced slowly in about 6 months, when he went to California for his health, had the Chagres fever, which prostrated him very much, and left him with a diarrhœa, which

continued for nearly 18 months, the passages most of the time being more or less mixed with blood.

For the past two years, he has been compelled to pass his water nearly every half hour day and night. His wife says he never got up less than 8 times in the night for this purpose, and more frequently 10 or 12. He never complained of pain, and only suffered from intense thirst; always drinking a tumbler of water every time he got up to pass his urine, and would drink several pitchers full in the course of the day. The only other symptom that was noticed, was a constant and intolerable itching of the anus, which gave him great annoyance, ever since his first hæmorrhage, 11 years since.

Within the past year has complained of fatigue and weariness, desiring constantly to rest in a horizontal posture. He, however, continued at his profession—(that of a dentist)—but would frequently leave his patients to rest a few minutes on the sofa; and which he attributed to his growing so fat, and was surprised to find that his increase in size was confined entirely to his waist.

Whenever he used the furnace to bake his porcelain, for the past year, he has suffered from Epistaxis, which continued for several days—generally a week. Within the last year, he has had a great many boils on different parts of the body—his wife thinks more than a hundred, and from which he suffered great pain.

On Monday, the 9th January (1860), he complained of a pain in the region of the right kidney, for the first time in 10 years. This continued to increase until the 14th, when it became very severe, and about 3 o'clock he lay down, and opened his pants, complaining of their tightness, and, pressing both hands on his loins, asked his wife to rub and *press* him there, when he suddenly jumped up, crying out—"There, something has given way —now it's coming," and immediately the blood started, and he passed nearly three quarts. I saw him a few hours afterwards in consultation with Dr. Seneff, and found him bathed in a cold clammy sweat; pulse 130, small, easily compressed and feeble; complaining of pain and weight in the right kidney. He was under the influence of morphine, and did not evacuate his bladder for 32 hours, at which time he passed about one pint of blood dissolved in a small quantity of urine. Whether the check of secretion from the kidneys was due to the excessive loss of blood, or the use of morphine, I was unable to determine. He continued to pass bloody urine for three or four days, when it again became clear and transparent, of the same amount, unmixed with blood. On the 20th, he had a slight convulsion, which was followed by a copious hæmorrhage and increased pain in the right kidney. A large-sized catheter passed readily into the bladder, showing there was no obstruction in the urethra; but the bladder was very small and corrugated, giving a very roughened feel to the hand when describing a circle with the instrument.

A distinct tumor could be detected in the right side, commencing just above the ileum, and extending upward, in the region of the kidney. It had an elastic, fluctuating feel, like an intestine filled with air, but was not resonant upon percussion, and was therefore diagnosticated as being connected with the kidney. He died in a convulsion on the 30th January, 1860.

Autopsy.—Right kidney, weighed 4 lbs. 3-4 oz.; length, 13 in. 1-4; breadth, 7 in.; thickness, 4. Left, weighed 3 lb. 1-2; length, 11 in.; breadth, 5 1-4; thickness, 3 1-4. Made up of cysts, varying in size from a large walnut to a small pea, and filled with different looking fluid—from a transparent serum, amber colored, quince juice, jelly looking material, up to the purple and jetty black; the latter, however, consisting mostly of blood. All of the black and bloody cysts were on the right side; the left was apparently transparent serous cysts. Both had undergone, to a considerable extent, the fatty degeneration. The bladder was very small and hypertrophic in its muscular coat, mucous membrane slightly thickened, but no hæmorrhagic spots. All the other organs were properly healthy. The lungs were much compressed by the distension of the kidneys, but were healthy.

The brain was not examined.

Three similar specimens of serous cyst of the kidney had been presented to the society; two by Dr. Clark, and one by Dr. Bennett of Bridgeport, Conn.; none of them, however, so large, or so fully distended with cysts as these specimens.

In all the cases presented, the previous history of the patients has been very similar to the one now presented. No complaint, or even suspicion of disease in the kidney; the urine being abundant, and apparently healthy in Dr. Bennett's case—the desire for frequent micturition was similar to this case, although nothing is stated of excessive thirst. And they have all died just after a slight convulsion, the probable result of uremic poison.

These cysts, according to Rokitanski and Dr. Clark, are the result of cell growths, deposited in the stroma of the kidney, between and outside of the uriniferous ducts, and not to the distension of the Malpighian capsules, by the obstruction of the tubuli uriniferi, by fibrinous exudation, as taught by Frerich and others.

Dr. S. exhibited some very excellent photographic views of the specimens in their recent state, taken by Mr. Gurney, and urged the propriety of establishing a gallery of such works of art in the several hospitals. He stated that he had been informed by Dr. R. E. Van Gieson, who had paid much attention to the subject, that the cost of an apparatus for such a purpose, together with one to photograph the microscopic field, would be less than 100 dollars.

Dr. Dalton asked how the frequent micturition could be explained.

Dr. Sayre was inclined to look upon it as a sympathetic affection, that the bladder had contracted simply in consequence of the

fact that it was not permitted to be fully distended; inasmuch as the patient did not suffer from stricture.

Dr. Clark remarked that there had been several specimens of cystic degeneration of the kidney presented to the society in the early years of its existence, that the history was a pretty uniform one and could be summed up in a few words as follows:

Patients who have carried these kidneys for years, have rarely exhibited any marked symptoms of disease until a few days before their death, up to which time they have occasionally generally been able to be about their employments. The urinary secretion in all the cases we have had, has been reasonably free until coming to a certain point it diminishes rapidly, then almost, if not entirely, ceases. In a few days, two, three, or four, some comatose symptoms occur, and then they die. Convulsions occasionally occur. Probably both the convulsions and comatose symptoms have been the result of uremia, consequent upon the suppression of the secretion. It is surprising, inasmuch as it is a chronic affection, and as there must have been almost as much an amount of disease ten days previous, as at the time of dissolution, that the patient could possibly have enjoyed good health.

The explanation has been found in the fact, that however numerous or however large the cysts are, the spaces between are composed of healthy kidney structure, containing tubes and vessels, with of course a new arrangement. Until pressure upon these tissues becomes very great, they continue to perform the offices of the kidney, and then perhaps by an increase in the size of the cyst, or from some other circumstance, we don't know what, suppression takes place with the symptoms referred to, and death ensues.

As to the origin of these cysts, it has been so recently the subject of remark in this society, that it is hardly necessary to repeat it. In chance, however, that it may be new to some persons, I will briefly refer to the following facts:

These cysts are not, as has been often said, the result of the obstruction of the uriniferous tubes. Their origin has been explained in a variety of ways. One is, that which I have already referred to. Another one is, that the epithelial cells of the uriniferous tubes take on a morbid condition and grow into monstrous cysts. This is altogether an erroneous idea. The true explanation I believe to be that which I presented to the society a good many years ago; namely, an entirely new formation of cystic structure, independent cysts, which are at first oval, microscopical bodies, containing a considerable quantity of granular matter, many of them with no distinct nucleus at the time they are first formed. We see these growing in great numbers in the intertubular spaces, not affecting the tubes except by the pressure consequent upon the increase in the size of the cysts. Their nutriment seems to come from the same vessels that furnish the urine.

I have been able to trace them from a very minute size, scarcely

larger than the 1000th part of an inch in diameter all the way up to the cells that were visible to the naked eye, and these from the minutest possible size to a cyst as large as the one presented this evening.

Of the accuracy of this explanation, I have the opportunity of stating one fact. When Dr. Elliot exhibited the last specimen of cystic degeneration to the society, he solicited the explanation which I have repeated, and then sent the kidney to Dr. Isaacs of Brooklyn with the statement. Dr. Isaacs returned it with the answer, that it was true to the letter. I suppose now that it does not rest upon my individual observation, and may hence be regarded in some degree as confirmed.

As to the hæmorrhage in Dr. Sayre's case, it is quite an interesting feature. I don't remember to have seen a clot in any of the kidneys that have yet been exhibited to the society.

Dr. Sayre stated that Dr. Rokitansky, in the 3d edition of his work, confirmed the views that had so long been entertained by Dr. Clark.

Dr. Markoe stated that he met with specimens of a kidney similar to the one presented by Dr. Sayre, with a clot in its interior.

Dr. Conant presented a specimen of a portion of a tenpenny nail which he removed from the metacarpo-phalangeal articulation of the thumb. The patient presented himself at the Demilt Dispensary, and stated that the joint had been swollen and stiff since 5 weeks previous, when he supposed it had been injured by handling some old lumber.—On examining the part, although no cicatrix was discoverable, a movable foreign body was found to exist beneath the integument. An incision was made and the portion of nail exhibited was extracted. The joint itself at that time did not seem to be diseased, but subsequently the part becoming much more swollen and stiff, the operation of resection of the upper two thirds of the metacarpal bone had to be performed. The bone was separated from all muscular attachments, and in the course of 10 days after the wound healed nicely and the patient was able to use the joint.

Aneurism of the Coronary Artery.—Dr. Clark presented a specimen of a heart, with pericardium attached, which was removed from the body of a man by Dr. Beach, to whom he was indebted for the opportunity of exhibiting a very interesting state of things. The history which Dr. Beach gave him was in substance this.

A young man about 30 years of age, a waiter by occupation, and a pretty free drinker, about 12 o'clock at night a few days ago went into a saloon down town, and was understood to have taken his drink. After a little while he went into the street, walked a short distance, and then fell down. When he was taken to a place where anything could be learned about him, it was found that he was dead.

Dr. Beach undertook to find some further history of him, but could not succeed. He learned from the wife, that the deceased

never had complained of shortness of breath, that he could run up stairs without any difficulty, and that he never had rheumatism. His health seemed to be as good as most other persons of his occupation, and nothing was known that could lead to the suspicion of any disease of his heart. Of course when this state of things was found—the doctor bringing the specimen to me with the pericardium closed, and containing blood, my suspicion was, that there might have been some local fatty degeneration, and that a rupture had taken place in the walls of the right ventricle (the most common seat of that accident), or that a small aneurism had formed in the artery, the aorta, at its origin behind one of the sections of the aortic valves, and that it had burst. Such specimens have been shown here from time to time, and they are much the more common cause one or other of them of this fatal hæmorrhage into the pericardium.

But on examination neither of these things was found to be present. There was no rupture of the ventricle, no rupture of heart proper at any point, neither was there an aneurism of the aorta, large or small. But in tracing the left coronary artery from its origin outward into the first fibres of the heart, running a distance of perhaps half an inch, this pair of forceps closed, was allowed to come into the pericadium, and examining the point where it had made its exit, there was a pretty extensive opening, a laceration of that coronary artery, perhaps three-fourths of an inch from its origin. There was no evidence upon the specimen that there had been aneurism of this coronary artery. The pericardial sac contained possibly about 12 or 14 ounces of blood.

In answer to a question from Dr. Wood, Dr. C. stated that there was a small amount of atheromatous deposit in the aorta.

Dr. Markoe remarked, that it did not seem to him that the coronary artery could be in a normal condition and such a result be brought about. He thought it would be interesting to dissect it out very carefully and ascertain accordingly. He referred in connection to a beautiful specimen of aneurism of the coronary artery in the Museum of the N. Y. Hospital. It was removed from a lady who died suddenly while engaged at her dressing table. The aneurismal sac was about as large as the end of the little finger, with a rupture at one point, thus allowing blood to escape into the pericardium.

Dr. Wood did not remember to have heard of a case of rupture of that artery without disease. He stated that he presented to the society some years ago an aneurism of the coronary artery, about the size of a marble, which ruptured into the pericadium, while the party was in congress with a prostitute of this city. The functions of the heart were of course at once suspended. In this case atheroma existed, both in the aorta and artery itself.

Dr. Clark did not think it was probable that in his case the artery was free from disease, but the coats were so stained with

the coloring matter of the blood that it was impossible to determine that fact positively until after maceration.

Pleura and Condensed Lung.—Dr. Finnell next presented a specimen of pleura and condensed lung. He much regretted that he was compelled to give the account of the case from memory. The specimen was taken from a man 19 years of age, who was strong, muscular, and in the enjoyment of very good health up to January—a year ago—when he was stabbed in the right side, between the ninth and tenth ribs. He lost a few ounces of blood at the time, but being engaged in a quarrel, took no notice of it until he began to feel very feeble, when he was taken to the N. Y. Hospital. His condition on admission was of extreme prostration and collapse. He however soon rallied and improved under stimulants and proper care, and after remaining in the hospital for a period of four weeks, he was able to walk out at the end of that time. I saw him a day or two after at his home, and found him suffering from severe pain in the right side. He was evidently in great distress for want of breath, suffering from inability to expand the lung on that side. So great was his suffering that he was unable to lie down, and was obliged to be propped up in bed. On examination, the existence of a large amount of fluid in the chest was made out. Dr. Clark was kind enough to see the case with me a day or two after, when his condition was very much worse. At the doctor's suggestion, the chest was punctured between the sixth and seventh ribs, corresponding to a line drawn vertically from the anterior fold of the axilla.

A large quantity of offensive pus was discharged, probably two pints; the instrument was then removed, and through the night there passed from the opening, thus made, a full pint and a half of the same character of matter. He expressed himself as feeling very much better after the operation.

He remained in this condition for ten or twelve days, when the fluid accumulating it was found necessary to introduce the trocar a second time. A less quantity of fluid escaped at this operation than at the former one. It was then suggested by Dr. Clark to leave the canula in. The instrument was kept in for two or three days, when, on account of its becoming painful to him, it was removed.

After this the discharge continued to flow out from the wound some days. In consequence of this he continued gradually to fail for the following two or three months, March, April, and May.

In June, Dr. Wood saw him, and at his suggestion an opening was made lower down, where bulging of the integument existed. The operation was attended with relief, and about a pint more of pus escaped. He continued to linger on until July, and finding himself not benefited by treatment, he commenced drinking. He drank everything in the alcoholic line that he could lay his hand on. The result of all this was a profuse dysentery, together

with which and the discharge in his side, he sank and died a few days ago.

I made a post-mortem examination the day after his death, and found that the chest contained from ten to twelve ounces of this fœtid pus, and the lung, of which a portion is here shown, only occupied about one-fourth the space allotted for it in a healthy state. The rest of the cavity was occupied by the abscess. The first impression, on laying open the chest, was that the lung was entirely destroyed, so firmly was that organ bound down by adhesions to the spinal column.

Dr. Clark stated that he had no remarks to make upon the specimen itself, but that the history of the case opened a question of considerable importance, viz.:—whether it was better in cases of pyemia to make a permanent opening, or to draw off the fluid from time to time. "Two years ago," said he, "I was of the opinion, that to make a permanent opening was the best. My opinion upon that point, however, has changed in view of certain facts that have come to my knowledge since that time."

There have been several operations by one and another of the Profession here, in which a permanent opening has been made, and of four or five cases, including those that I have known something about, only one has got well. While in that same time there have been three in which no operation was performed, and where a spontaneous opening had been made, and the patients are all doing well. In a fourth case, I performed in the period of a year and a quarter, with the assistance of Dr. Crane, twenty-four operations, withdrawing the first time eleven pints of matter. In every instance the trocar was used, followed by the pump.

At length the pus in the inside took the cure into its own hands, after the fashion of the cure of paracentesis by necessity.

It is now about five or six months since it has been draining away at the rate of a gill to a wine glass full a day. The health of the young gentleman is becoming more and more improved, and everything promises the usual good result in such cases.

I believe, though it is a tedious and protracted work to carry on the case in that way, that we must wait as long as we can in the hope that that better surgeon will do the operation in a better manner, though it looks much more clumsy. I am doubtful of the propriety of paracentesis with a permanent opening in instances where there is simple empyema, and where there is no opening in the pleura for the admission of air.

Dr. Markoe stated that he coincided entirely with Dr. Clark, and that he had entertained such opinions for a long time. As an illustration of this fact, he referred to a case of a punctured wound of the chest in a patient of the N. Y. Hospital. This wound produced a pleuritis with effusion which was accompanied with a discharge through the opening. The progress of the case was entirely satisfactory, and the patient has steadily improved—and now six or eight weeks after the injury, the amount of discharge

has dwindled down from several ounces daily to a few drops. He thought the case an exceedingly interesting one, as showing the reparative tendency of nature.

Dr. Wood remembered three successful cases that occurred to him within the past three years. "In all the matter pointed between the ribs—two of these were adults, the third was a child. The first was a resident of Williamsburgh, a patient of Dr. Woodward. This case was followed up for a period of six months, when the discharge finally ceased, and the fistula closed up. The other case was more protracted, eighteen months being required to effect a cure. The child's case was one of masked pleurisy which was neglected, and when Dr. Wood saw it, there was dulness over the whole side. This boy eventually got well. In all the cases, after pointing, the abscess was opened with a lancet. Two of these cases were on the left side.

"In Bellevue Hospital, we very frequently have these cases, but they are almost always in tubercular patients; they die of course; phthisis will kill them at all events. Then there are cases of pleuro-pneumonia intercurrent with the disease, and they almost always die. I have seen them punctured time and again, and they never recovered. I have also seen spontaneous openings made, and the majority of them got well."

In regard to the operation of paracentesis, his views coincided with those expressed by Drs. Markoe and Clark.

Dr. Markoe remarked that Dr. Metcalfe had published a very considerable number of cases where paracentesis was resorted to, both for pyemia and serous effusion, and the amount of mortality was very large.

Dr. O'Rorke thought a great deal of the success of the operation depended upon the age of the patient, the younger the subject the more likely was recovery to take place.

Dr. Clark stated that he was not familiar with the disease (empyema) in old patients; in all that he knew of, the ages were less than 45.

Dr. O'Rorke stated that he had seen the operation performed upon a patient 60 years of age.

Dr. Clark, in answer to a question from Dr. Finnell, stated that the question of treatment turned upon the point, whether or not a permanent opening should be made, but that the physician was not warranted in any case to delay the simple puncture of the chest wall, when the urgency of the symptoms demanded the performance of the operation.

Dr. Markoe asked Dr. C., what was the result in the cases reported by Bowditch.

Dr. Clark did not recollect exactly concerning the cases of empyema—most of them were cases of simple pleurisy, and the result in those was of course favorable. In one case, the effusion, from being serous, finally became purulent.

Dr. Sayre stated that he had performed the operation only

twice—in both cases for empyema. In one case it was the result of pleuro-pneumonia, an abscess forming in the lung and bursting into the pleural cavity. A puncture was made and a considerable amount of pus escaped, and when it accidentally closed up at the end of some three or four months, all the unpleasant symptoms—dyspnœa, cough, and expectoration, returned. Previous to the operation, the patient expectorated pus, which condition of things, together with the dyspnœa, would cease as long as the hole was kept open, where the matter would be discharged instead. This feature in the case led to the diagnosis referred to, which, by the by, was confirmed by Dr. Cammann, who made an examination of the case. This case is published in full in the 1st vol. Trans. Alumni of College of Physicians and Surgeons. In the second case, a permanent opening was kept until the patient recovered.

Atheromatous Tumor of Face.—Dr. Sands presented a specimen of a small tumor in behalf of Dr. Detmold. The patient from whom it was removed was a man of middle age. The tumor had grown slowly and had given him very little pain, but being apprehensive of its character, he requested Dr. D. to remove it.

The operation was performed by an elliptical incision; a portion of skin to which the mass was firmly attached he removed along with it. It was half an inch long by a third of an inch in thickness. It was composed of a firm, whitish, chalky substance, which was enveloped in a shiny cell wall. A microscopical examination showed it to consist for the most part of epithelium cells, such as are found contained in sebaceous cysts, a good deal of fatty matter, and some salt which effervesced on the addition of carbonic acid gas. Had the character of the tumor been known previous to the operation, a simple incision through the skin would have been sufficient for its removal.

Large Tumor of the Groin.—Dr. Sands presented a second specimen, a large tumor of the groin, which he assisted Dr. Parker in removing a few hours before. The patient was a lady of delicate habit, about forty years of age, and of good constitution. The tumor first made its appearance ten years ago, it being then quite small. It increased gradually from year to year, until about six months ago, when it took on a rapid growth, doubling its size from that time. There were no other swellings in the body. The tumor lay obliquely as regards the axis of the limb in the direction of Poupart's Ligament, with its long axis downward and inward. It was covered by the integument only, through which coursed several large veins, the internal saphena being at the internal aspect of the tumor. It was removed by a single incision, which was carried across the mass from above downward. The skin separated readily, and the only firm attachment which the tumor seemed to have, was at its lower and inner portion by a nodule to the fascialata, which portion of the tissue Dr. Parker cut away.

Dr. Sands stated, that a short time before the meeting, he had made a microscopical examination of a section of the tumor, but did not feel at all satisfied in regard to its real character. It consisted of small cells, cylindrical or fusiform, with elongated nuclei, and having one, two, or three small punctate nucleoli. On the whole it seemed to have more a fibro-plastic character than cancerous.

The tumor measured seven inches in its long diameter, four and a half inches in thickness. Its weight was two pounds twelve ounces.

Dr. Markoe stated that the gross appearances of the mass were of a malignant character. He was reminded very strongly, in connection with the case, of an operation that he had performed, five or six years before, upon a lady in Sag Harbor. The tumor was nearly twice the size of the one presented, was nearly in the some situation, and had very much the same history. It had advanced, however, a little further in its course, so much so, that ulcerated spots appeared on the surface, giving rise to one or two pretty severe hæmorrhages. About these ulcers the integuments were confounded with the substance of the tumor, so that he was obliged to remove it by the elliptical method. This brought about a result which was not at first anticipated, viz., that the integument was not sufficient to cover the hiatus. This state of things was the more to be regretted from the fact, that the appearances of the tumor were of a very unsatisfactory character. Dr. Metcalfe made a microscopic examination of it, and did not hesitate in pronouncing it of a malignant character.

Notwithstanding all this, and to the surprise of every one who saw the case, the wound completely healed in the course of 6 or 8 weeks after the operation. When the patient was last seen—18 months ago—the wound continued closed, and she was in the enjoyment of good health.

Dr. Sayre asked if there was any evidence that could be relied upon as exhibited by the microscope, in regard to pronouncing a tumor cancerous.

Dr. Clark remarked, that five or six years ago, the tumors belonging to the same class as the one presented by Dr. Sands, were not distinguished from the more malignant growths, even by the microscope, because the cells found in such specimens were all grouped together as being malignant. He thought it possible that Dr. Metcalfe styled the tumor malignant, in consequence of the presence of such in microscopical bodies.

Dr. Sayre stated that Virchow had abandoned all his former belief in regard to the accuracy of the microscope in determining the malignancy of morbid growths.

Dr. Clark stated that there were certain appearances under the microscope which could not be mistaken in regard to their malignant character, and which always re-appear when once removed. Then, on the other extreme, tumors might be made up of fibres

wholly without any cells. "Between these two," said he, "there is every gradation, until you come to a point where it is difficult to say whether such a structure is malignant or not.

"This," he remarked, "will be contested ground, probably for some years, but by carefully preserving the histories of tumors of doubtful character, watching the progress of the same, and keeping the microscope at work in the meantime, its diagnostic power will yet be properly appreciated."

In answer to a question from Dr. Sayre, he stated that the distinction of cancer cells must be made by excluding everything else, but that that work of exclusion had not yet been completed.

Dr. Krackowitzer did not understand Virchow, to say that he had lost confidence in the microscope as a means of diagnosis, but only that no one particular form of cell could be found, that could be designated as malignant; and that the only distinction between the two growths which could be made, was that the cells going to form the malignant tumors were imbedded in alveoli. The cells themselves might be of any character, but if arranged in the manner spoken of, it was sufficient to term them malignant.

Stomach after Laudanum Poisoning.—Dr. T. F. Cock presented a specimen of a stomach removed the day before from a female; a patient of the N. Y. Hospital. The history of the case was as follows:—

She was admitted yesterday about one o'clock. The day previous (Monday) she took the greater portion of two ounces of laudanum. Between seven and eight o'clock of Tuesday, she purchased about two drachms of oxalic acid, dissolved it in a bowl of water, and took nearly the whole of it. After this she vomited, but determined to effect her purpose, she swallowed what remained of the laudanum. She was immediately after taken to the Hospital, where Dr. Cock saw her about three o'clock. She presented very much the appearance of one suffering from narcotic poisoning. The general surface was inclined to be livid, she was comatose, the pupils were contracted, and her breathing was sonorous, and became stertorous after the galvanic battery was used. The pulse was slow, between 80 and 90. She had been able to swallow, and had taken coffee pretty freely. She was kept awake until between ten and eleven o'clock at night, when she died. Dr. Cock saw her about ten, and at that time she seemed as a patient under the influence of opium. She died suddenly.

The post-mortem examination was made to-day. The stomach is the only organ of the body particularly affected. The whole mucous surface presents a pretty uniform redness, and at some points it seems as if this membrane was completely gone. There was no perforation of the coats of the stomach, and the cavity of the organ was half filled with a greenish brown fluid matter. The brain was found to be highly congested.

Dr. Clark remarked that the appearance of the specimen was

not of gastritis, inasmuch as neither the punctate nor arborescent injection of the mucous coat was visible. The color seemed to him to be due more to the effusion of hematine than to anything else.

Dr. Cock stated that the case was an interesting one so far as it related to the separation of symptoms which belonged to the two opposite kinds of poisoning. The appearance of her tongue was such as was usually seen after taking the acid—dry, brown, and cracked.

The Society then adjourned.

HOSPITAL REPORTS.

BELLEVUE HOSPITAL.

Reported for the New York Journal of Medicine.

BY EUGENE PEUGNET, M.D.,
HOUSE SURGEON.

TWO CASES OF LIGATION OF EXTERNAL ILIAC ARTERY.

Case 1.—*Ligation of External Iliac for Aneurism.—Peritonitis. Death.*—Ann D., Oct. 26, a native of Ireland, married, housekeeper, apparently of good constitution, but intemperate in her habits, was admitted into Bellevue Hospital on 13th December, 1859, service of Dr. Jas. R. Wood. No hereditary tendency to disease or syphilitic taint traceable. About the 8th of November the patient noticed a small swelling in the left groin, to which she paid but little attention at first. About ten days afterwards her foot and leg began to swell, so much so that it interfered with her daily occupation. At date of her admission her general health was good. She appeared to be of a nervous temperament, and had none of the rationale or physical signs of phthisis or cardiac disease. Her left leg and foot were in an œdematous condition.

A pulsating tumor, about the size of a small orange, was felt in the upper portion of Scarpa's space, immediately below Poupart's ligament, and extending upward and beneath it. An equable pulsation was felt in every part of its surface, synchronous with the pulse. Pressure on the cardiac side caused a diminution in size of the tumor, and a cessation of the pulsation, while pressure on the distal side caused an increase of size. A bruit de soufflet synchronous with the systole of the heart was distinctly heard in every part of the tumor.

Diagnosis.—Aneurism of Femoral Artery, involving the external iliac.

Treatment.—Ligation of external iliac artery.

On the 17th of December, at 2 o'clock P.M., the patient having had her intestines previously evacuated by an enema, and being under the influence of ether, Dr. Wood performed the operation in the presence of several eminent surgeons of the city and a large class of students.

The thigh being extended, an incision was made through the integument and fascia, commencing one inch above the external abdominal ring, carried in a semicircular direction nearly parallel with Poupart's ligament, with its convexity pointing downward and terminating 1½ inches above, and within the anterior-superior process of the ilium. The abdominal layers were next divided; the transversalis fascia reached, and the finger passed into the internal abdominal ring. The fascia was then detached from the peritoneum; the separation began at the internal opening where it was least adherent, and, with the finger for a director, the remainder was divided. The peritoneum was then pushed aside and held out of the way by Dr. Sayre; this brought the vessel into full view; the sheath was then opened with the nail of the index finger, and the aneurismal needle was passed within and between the artery and the vein. Very little hemorrhage occurred during the operation, and only four small vessels were tied. The wound, which was as deep as the Doctor's index finger, was then brought together, the edges secured by means of four interrupted silver sutures; adhesive straps were then applied, and the whole secured by a compress and a single spica bandage. The patient was then placed in bed, the limb thickly enveloped in cotton, hot bottles were placed around the limb, and the foot elevated, after which half a grain of morphia was administered.

7 o'clock P. M.—Pulse regular but weak. Patient complains of slight pain in left iliac region; slight nausea. *Ord.* 1 gr. of opium and ℥ j of brandy, to be given every two hours with a sufficient quantity of beef tea.

Dec. 18*th*, 10 A. M.—Patient has passed a quiet night; pulse 120; skin hot; respiration thoracic; tympanitis with tenderness over the abdomen; nausea; retains the stimulants with difficulty. *Ord.* Aquæ calcis and milk to allay the nausea; stimulants to be continued; 2 drops tinct. root of aconite, ℥ ss spts. mindereri, to be given every two hours.

Dec. 19*th*, 10 A.M.—Pulse 120 and irregular; fever; rejects every thing from her stomach; complains of pain in left iliac region; tympanitis and thoracic respiration more marked; dressings removed; inner half of the wound had united by first intention; a small livid spot, as if there had been ecchymosis, was observed on superior and internal border of the wound; the tumor was much reduced in size and no pulsation perceptible; the temperature of the limb elevated. *Ord.* an enema containing ℥ ij of brandy and gr. v. of opium to be given every hour. Her urine, which had been previously examined, sp. gr. 1015. Reac-

tion acid, contained hyaline and granular casts, together with renal epithelium.

Dec. 20th, 2 P.M.—Pulse 162; patient sinking rapidly.

7½ P.M.—Died.

Autopsy—16 hours after death. Cadaveric rigidity slight; nutrition of body good.

Head.—Brain not examined.

Heart.—Walls thin; valves normal.

Left Lung.—A few old adhesions of upper lobe; deposit of a few latent tubercles at the apex.

Abdomen.—Edges of the wound in a sloughy condition; peritoneum inflamed and covered with a sero-purulent fluid; no adhesions; peritonitis more marked over the bladder and uterus. On carefully separating the peritoneum from the fascia transversalis it was found to be intact. Liver fatty; kidneys fatty, and left one congested. The external iliac had been tied two in. below the bifurcation of primitive iliac, and an inch and a half above the aneurism, which is much reduced in size. A small clot had been formed on the cardiac side of the ligature; the blood had also coagulated in the sac. The epigastric and circumflex ilii arteries are given off from the external iliac artery immediately above the aneurism. The femoral vein crosses over it. The saphena enters the vein at the middle of the sac. On its outer side is the external circumflex artery, and at its distal are the profunda and the continuation of the femoral artery, both being apparently involved in the aneurism. The crural plexus of nerves pass beneath the aneurism.

Case 2.—Ligation of the External Iliac Artery for Aneurism.—John M., æt. 31, New York, fruitdealer, good constitution, intemperate in his habits, admitted Feb. 14th, 1860. Service of Dr. James R. Wood.

Patient states that about three months before being admitted he noticed a small lump in the right groin, which gradually increased in size, at the same time causing pain along the inner side of the leg. He contracted syphilis nine years ago. General health apparently good, though rather nervous and excited from the effects of dissipation. The right leg was in an œdematous condition, and in the upper part of Scarpa's space, a pulsating tumor was observed, which was about two inches in diameter and terminated abruptly at Poupart's ligament. It presented all the characteristic signs of an aneurism of the femoral, involving the external iliac artery.

Feb. 25th.—The patient being in proper condition, and under the influence of ether, at 1½ o'clock P.M., Dr. James R. Wood proceeded to tie the external iliac artery, being assisted by Dr. Alex. B. Mott; the operation in this case being similar in every respect to the first. The artery was reached and a ligature placed around it without any difficulty. Only three small vessels were tied. The edges of the wound were secured by silver sutures;

a compress placed over the wound, and secured by a single spica bandage. The limb was enveloped in cotton.

3 P.M.—*Ordered* morphine ½ gr., brandy ½ ℥.

7 P.M.—Very restless. *Ordered* morphine ½ gr.

11 P.M.—Pulse 108 and full. *Ordered* morphine ½ gr.

Feb. 26th, 9 A.M.—Patient did not sleep any last night. Pulse 128, complains of intense pain in the lumbar region. *Ordered* tinct. opii camph., spts. ether comp. aa. ℥ ss to be repeated every hour.

5 P.M.—Pulse 112; tongue moist; no pain; skin hot.

6 P.M.—Pulse 116; complains of pain in left hip. *Ordered* tinct. veratrum viride gtt. v.

7½ P.M.—Pulse 108; skin hot; no pain; slight vomiting.

8½ P.M.—Pulse 106; vomiting ceased. *Ordered* tinct. verat. viride gtt. v.

10 P.M.—Pulse 126; *Ordered* tinct. verat. viride gtt. v.

12 P.M.—Pulse 126; tongue moist; *Ordered* tinct. verat. viride gtt. vii.

Feb. 27th, 1 A.M.—Pulse 126; patient quiet; *Ordered* morphine ½ gr.

5 A.M.—Pulse 112; *Ordered* morphine ½ gr.

9 A.M.—Pulse 120; patient has been asleep since 6 o'clock; feels comfortable. Wound dressed, inner angle healed by first intention. Tumor much reduced in size, and quite hard. Temperature of limb elevated. *Ordered* tinct. veratrum viride gtt. vii.

1. 35 P.M.—Pulse 116. *Ordered* tinct. veratrum viride gtt. ix.

4 P.M.—Pulse 116 and soft. *Ordered* tinct. veratrum viride gtt. x.

7 P.M.—*Ordered* morphine ½ gr.

12 M.—Pulse 112 and soft. *Ordered* morphine ½ gr.

Feb. 28th, 10½ A.M.—Pulse 112; patient has been asleep since.

12½ A.M.—Wound dressed. Temperature of the right limb 90° Fahr.; of left limb 80° Fahr. *Ordered* ℥ j of castor oil to be given in the evening.

Feb. 29th, 9½ A.M.—Pulse 104. Patient slept well last night, erysipelatous inflammation around the wound extending to the scrotum. All the sutures were removed. Patient has had four evacuations from the bowels since taking the oil. Temperature of right limb 78°, of left limb 80°. *Ordered* poultice placed over the wound.

March 1st, 10 A.M.—Pulse 110. Slept well last night. Temperature of both limbs 78°.

March 2nd, 9 A.M.—Pulse 108. Erysipelas rapidly subsiding; healthy pus discharging freely from the wound. *Ordered* ½ gr. morphine to be given at night.

March 3rd, 1 A.M.—Mind wandering. *Ordered* acetat. morphine ½ gr.

9 A.M.—Pulse 123. Patient slept well after 1 o'clock. *Ordered* ol. ricini ℥ j.

6 P.M.—Pulse 116; mind wandering; patient has had three evacuations. *Ordered* morphine ½ gr., and ½ ℥ sherry to be given every hour.

March 4th, 8½ A.M.—Pulse 102; patient has not slept any; has taken 1 gr. morphine since yesterday morning; delirious; a small artery is felt pulsating over the tumor. *Ordered* morphine ½ gr.

March 5th, 9 A.M.—Pulse 112; delirium and sleeplessness continue. *Ordered* morphine ½ gr. and brandy to be substituted for the sherry.

10 A.M.—Pulse 96. *Ordered* morphine ½ gr.

March 6th, 3¾ P.M.—Patient slept from 9 A.M to 3 P.M.; quite rational; pulse 98 and soft.

11 P.M.—*Ordered* morphine ½ gr.

March 7th, 4½ P.M.—Pulse 118; patient slept well last night; good appetite.

9 P.M.—*Ordered* ½ gr. morphine.

March 8th, 9¾ A.M.—The 13th day; pulse 100; slept well last night; ligature removed. *Ordered* ½ gr. morphine at night.

March 9th, 9½ A.M.—Patient slept well last night, wound granulating rapidly.

March 14th, 10 A.M.—Pulse 92; wound granulating; patient in good spirits.

April 4th, 10 A.M.—Patient very comfortable. The artery running over the tumor is very much increased in size.

April 9th.—Slight pulsation felt in posterior tibial artery; wound closing rapidly; patient allowed to sit up.

April 14th.—Wound healing rapidly, there being nothing left but a small ulcer. Patient's general health very much improved.

PART SECOND.

CRITICAL ANALYSIS.

A Medico-Legal Treatise on Malpractice and Medical Evidence. By JOHN J. ELWELL, M.D., of the Cleaveland Bar. 8vo. pp. 600. John S. Voorhies, 20 Nassau Street, N. Y.

IN this day of many books and typographic fecundity it is a real pleasure, as it is a rare privilege, to greet one which bears the bold, unhackneyed stamp of originality. "Some books," says Lord Bacon, "are to be tasted, some to be swallowed; some few to be chewed and digested." Prof. Elwell's belongs most emphatically to the latter class, and its frequent mastication and digestion by both professions of Law and Medicine will be found to afford them that very pabulum for which they have long and anxiously waited. Indeed, considering the very great number of legal and medical text-books which have been put forth in elucidation of almost every specialty which professional necessities have created; and looking even at those on Medical Jurisprudence which best evince the syncretism of two great sciences, it is singular to perceive that the subject of malpractice is nowhere discussed. Even the omnivorous and encyclopædic Beck, who, with probe and tentacle, has explored every rill and rift, every peak and cavern of forensic medicine, and has heterogeneously incorporated everything that was ever said or printed upon this subject into his text, overlooks entirely the very important and magistral topic of malpractice. It is excusable therefore in less voluminous writers to omit considering a subject which the great master himself ignores, and accordingly, in no American text-book on Medical Jurisprudence, is the topic more than incidentally alluded to. For years the occasional occurrence of a suit for malpractice, perhaps never finding its way into a legal report, and recorded only in the loose and unreliable diction of newspapers, has startled medical practitioners, without at the same time enlightening them upon the *rights* as well as the *liabilities* which such contests revealed. A full and thorough discussion of the principles underlying these cases, as contained in the charges of judges, would have been a most valuable contribution to medical literature, and could they have found a commentator or even a classifier to present them to the attention of practitioners in both professions, many needless lawsuits might on the one hand have been avoided, many arrant quacks might on the other hand have been brought to speedy effectual punishment.

To supply this great want—this crying need of both professions,

hiatus valdè deflendus, Prof. Elwell has, after an experience of many years both as a physician and a lawyer, compiled the above work. Bringing, as he does to this work, the results of his own personal observation upon the class of subjects of which it treats, he has succeeded in elucidating, by proper comments, the decisions of the courts, in a manner which renders them intelligible in their essence, not less than in their logic. To medical practitioners this service is doubly useful, since it enables them to perceive in every case not only the *gist* of the issue, but the *why* and the *wherefore* of the legal principles governing it. A man educated solely in one profession could not have accomplished this labor singly, whether lawyer, whether physician. In Prof. Elwell, fortunately, the qualifications of both professions are most happily united, and the consequence is that he speaks to either profession intelligently and usefully. His work being, moreover, the very first of its kind ever published in the United States, is a compliment to our national pride which we trust will not be overlooked by his countrymen, and yet it is written in that bold, earnest style which courts rather than shuns criticism, and asks the suffrage of our judgment upon the sole basis of its merits. That basis is, in our opinion, a broad one; or if even any stone or pillar be wanting in it, which we yet perceive not, it must be upon some exceptional topic which courts have so rarely passed upon that it has no recognised importance outside of its place in the history of medico-legal adjudications.

The author very properly begins his treatise by a dissertation upon the general principles of law applicable to medical men, wherein he shows that the legal character of the services rendered by physicians is not exclusively subjective, the patient being bound to co-operate with them in obtaining a cure, and his neglect to do so being his own wrong, and therefore a discharge *quoad hoc* of the responsibility of his medical adviser. This doctrine finds its foundation in the well-approved maxim that no man shall profit by his own wrong, nor does it matter in what form that wrong manifest itself, although some leading decisions on the subject of wounds seem to negative this time-honored rule by still rendering the defendant liable as for homicide, where it was proved that the deceased had wantonly torn open a wound, removed bandages, and hastened the fatal termination of what might otherwise not have been a mortal wound. But the great difficulty which everywhere besets our steps in the examination of the legal relations flowing out of the practice of medicine, is the conflict of authorities constantly arising upon their adjudication. The class of cases in which medical men are concerned as defendants upon charges of professional misconduct forms no exception to the rule that juries decide as they *will*, and courts as well as they know how to. Hence, the degree of education, the extent of general reading and familiarity with some of the most ordinary canons of the iatric art, preconceived prejudices based upon unilateral investi-

gations, in particular systems of medical practice, all crop out as plainly in the decisions upon malpractice, as Dr. Johnson's inordinate potations of green tea tincture his midnight essays with a saffron hue, or Lord Byron's gin, imbibed in the *cœnis antelucanis*, smells rank in the verses of Don Juan. In most cases courts have endeavored too much to "divide a hair 'twixt South and So'-west side," and the consequence has been that between the host of decisions *pro* and *con.*, every conscientious judge, while anxious to respect precedent, *stare decisis*, and at the same time to reconcile present facts with past rulings, has found himself between the horns of a dilemma. Quid dem? Quid non dem? renuis tu quod jubet alter.

In the chapter on "The Inherent Elementary Difficulties connected with the Practice of Medicine and Surgery," Prof. Elwell has thoroughly sifted and truly exposed the groundwork of all differences upon the subject of these sciences. Nothing in finite existence is certain but death, which alone can be predicated of every organism; and every profession, whether dealing with the mind or the body, may be said to be in most degrees conjectural. The chapter above cited unfolds this truth in a very lucid, though not over gratifying *exposé* of the many uncertainties which hedge the path of the physician in his explorations of the pathological domain and his application of therapeutic agents. Perhaps, were medical logic better studied by lawyers we should have less suits for malpractice—certainly less *honest* suits; and yet unless empiricism is checked by salutary laws entailing responsibility upon its practitioners in every school, the public cannot be said to be adequately protected in those rights which are most easily invaded, and but for the labors of earnest, upright, and scientific minds, would be still more so. The right of having our physical ailments treated *secundum artem—the* art, as recognised by the majority of scientific physicians, graduates of medical colleges, and active practitioners of healing, is a right everywhere recognised. It is the great right, next to that of life, because it involves health and reputation. And inasmuch as the sick cannot judge ordinarily whether they are or are not being judiciously administered to, *pendente morbo*, until the issue shows health or permanent injury, it follows that safeguards must be cast around society in order to protect it and the *regular* medical profession, against those piratical incursions upon the dignity of the art and the health of the citizen which are being daily made by men, who, styling themselves physicians, are only in truth medical journeymen, and poor apprentices at that. Any citizen, however exalted, may have his character assailed. "Be thou as pure as ice, as chaste as snow, thou shalt not escape calumny," is a truism which is every day verified; and the physician or surgeon, however skilful, must not account himself an object beyond the reach of malice or vituperation, and if he be what he affects to be his acts will not be diminished in brilliancy or effectiveness by any suit for malpractice

which can possibly be brought against him. We do not think the time has yet come, or will ever come, when the apprehensions of suits for malpractice will deter any truly scientific and thoroughly educated gentleman from entering the medical profession. These bugbears are useful as against charlatans—indeed they should be carefully nursed and nourished for their benefit by relinquishing no efforts to inform these gentry of the actual state of the law upon the subject of the responsibilities they have so wantonly assumed, by doing which both lawyers and judges will greatly advance the cause of true science and humanity. And yet until a more catholic education pervades the woolsack—something of knowledge that transcends the mere stereotyped literature of statutes, we can hardly expect other decisions than those of *Rex* v. *Long*,* or *Comm.* v. *Thompson*,† both which show what degrees of blatant ignorance, backed up by impudent and truculent hardihood, will pass the ordeal of judicial investigations. In either of these cases the wanton, deliberate sacrifice of life was sufficient, in our estimation, to have justified a conviction for manslaughter at the very least. Nevertheless courts thought otherwise, although we see no higher grounds for those thoughts than express statutory provisions, which, considering the character of this class of cases, do not seem to meet the requirements of real criminal responsibility before the law. If *mala praxis* in a medical man be a misdemeanor, it should be made a felony in an empiric, because clearly it is an unlawful act for a person to misrepresent his true character in order to entrap a stranger into dealing with him, giving him credit, or confiding his life or health to his charge. This rule of equity is well established, and we are sorry not to see it oftener introduced into criminal law. By the statutes of our own state it is made a misdemeanor for a physician to prescribe while intoxicated, and if the patient die in consequence of any mistake thereby committed, it is manslaughter; but the quack, the pill-vender, the life-elixir compounder, the panacea concocter—he may make and he may sell while intoxicated; he may permanently injure health, or even steal the breath from man's nostrils, and yet it is neither misdemeanor nor mal-practice in him. There is certainly a very high premium put upon quackery, and one too which sufficiently explains the source of its success. It lies, in a word, in its irresponsibility.

Our limited space does not permit us to notice in detail the several always interesting, always thoroughly discussed chapters which form this compendium. To investigate each in its foundation, its superstructure, and its subdivisions, would require nothing less than the compass of the whole Journal. It must suffice to say that each principle has been viewed under the light of both English and American law—has been analysed *in extenso*, and finally located in its appropriate place, and where it would

* 6 Bingham, 440. † 6 Mass. 134.

most pertinently come in any judicial investigation. In doing this the author has not lost sight of the necessity of supporting his discussion by well selected cases whose *punctum saliens* is the identical principle under consideration. These, therefore, are leading cases, and as such always orthodox and authoritative before courts until overruled.

But in justice to a great subject upon which it descants most luminously, because most briefly—the subject of all subjects in medical jurisprudence—in justice to the overwhelming importance which must everywhere, and in all places, attach to the phenomena of mental disease, and the legal conditions flowing out of them, we venture to pause and utter a very few words over the chapter on *Insanity*. At the outset we may say that any intelligent man may talk flippantly enough on the above topic, up to a certain point, because common observation of functional derangements in the brain as manifested in intoxication and somnambulism are of every day occurrence, and to the inexperienced eye simulate forms of chronic, organic disturbance. Inasmuch also as the *causa causans* of insanity is in most instances as completely hid from the physician as from the layman, each meets on equal terms in the deep, dark mine of mental pathology. Beyond a certain point medical knowledge avails nothing—up to a certain point it avails much. When the physician has reached his *ultima Thule* he can see no better than the layman who had followed him, and this conviction of the inability of penetrating the mental constitution beyond its most superficial operations, gives every man the right to have "his say" up to those pillars of Hercules beyond which lies the psychical Atlantis. Hence, as Prof. Elwell tells us, "Countless volumes having been written by the ablest minds of the medical profession upon the great subject; quarterly and monthly periodicals having been established expressly for its discussion and elucidation; some of the ablest thinkers in medicine having made it for a lifetime a specialty, ... the popular mind and general reader come very naturally to conclude that the whole subject is well understood." But when either lawyer or physician comes to investigate and apply rules of law to any individual case he finds, *lamentabile dictu*—"That notwithstanding all that has been accomplished by the accumulation of facts, and the enunciation and discussion of theories upon the subject of insanity, especially during the last century, the whole question is still *sub judice*."

It is certainly mortifying to think that the wondrous discoveries in cerebral pathology made during the last century, have only precipitated instead of dissolving confusion upon the subject of insanity. But Prof. Elwell, who explores physical testimony with the eye of an expert, and sifts it with the acumen of a lawyer, shows us very pointedly the origin of this confusion. It did not exist in ancient times; it did not even exist in the early part of the last century. It only showed itself simultaneously with the attempt to

create systems of mental nosology of so recondite and multiform a character that we have often thought they must have grown out of the unlawful conjunction of metaphysics and homœopathy. Since the day when Sauvages, Vogel, and Sagar elaborated their cumbrous nosologies, nothing in classification has been seen equal to the hairsplitting, super-sub-divisional classification of Flemming, unless it be the Hahnemannian nosography. According to this German psychologist, every man whose cœnesthesia is disturbed, however slightly, may be considered as standing in the antechamber of insanity, the *stadium prodromorum* of cerebral affection being plainly marked in him. Now, if we adopt Lord Brougham's dictum, that there are no degrees of insanity, every one being either sane or insane; and if we apply Flemming's latitudinarian test to any case of physical ailment, then every man who has a fit of melancholy, who is in an "anomalous condition," produced either by deficiency of bile or deficiency of bullion, has a *dysthymia adstricta*, and as such is insane and irresponsible. Indeed it is quite fearful to think of the millions of insane who walk at large armed with irresponsibility, and ready to knife or shoot any one who dares ruffle the surface of their emotions. As Prof. Elwell truly and wittily says of this classification, "It is certainly liberal enough to encompass within its folds every son and daughter of Adam, sane or insane. . . . . There seems indeed to be a name for every conceivable kind of mania except that of maniacal classification or insane nomenclature."

With names and classifications the author tells us that courts have nothing to do, and were courts more prone to remember this they would most assuredly reject the equivocal name of moral insanity from their adjudications. And in this connexion we cannot help saying that if there be among all the chapters in this truly valuable book, one which we particularly consider as the keystone of all the rest—and whose honest, frank, and conservative tone will do more to beget a true medico-legal union before the courts, where now we so often have a complete antagonism of the two professions, it is the chapter on "The Position of the Courts upon Insanity." Indeed, throughout all his discussions upon this vexed question, Prof. Elwell shows the fruits of a large observation of facts, as well as of a critical examination into the legal and physical causes of divergence between the professions of law and medicine. And we shall be much mistaken if the dissemination of his logic does not produce a radical change in the minds of many of those whose chief delight it has been, in season and out of season, to heap reproach upon the courts, for not surrendering at once some of the most cardinal principles of human government as applied to rational and responsible beings.

We cannot close this brief and imperfect review of Prof. Elwell's book, throughout which we have seen so much more to praise and to admire than we have dared give utterance to, without calling attention to the fact that the field trodden by him is both a new

and a rich one. Its harvests are daily growing and presenting themselves to the sickle of any reaper who may chance to pass by; and although he has done so much and done so well in his gleanings of the lore and the law of malpractice, the field is not yet entirely gathered. He has given us all the necessary leading principles, the land-marks, in fact, of the science; it is for us to collect, and arrange, and systematize these new cases that come up in the daily life of professional practice to perplex and harass the physician and the lawyer. The whole subject of malpractice and medical evidence is, in our courts at least, still in its infancy. That it must and that it will receive more attention in future cannot be doubted, for it is chiefly through works like Prof. Elwell's that the importance of any neglected department of scientific investigation is made to appear. That once known, other and equally zealous minds will not be slow to follow in the footsteps of their master, for the history of emulation is the history of progress the world over. J. O.

A System of Surgery; Pathological, Diagnostic, Therapeutic, and Operative. By SAMUEL D. GROSS, M.D., Prof. of Surgery in the Jefferson Medical College of Philadelphia, &c., &c. Illustrated by nine hundred and thirty-six engravings. In two Volumes. Philadelphia: Blanchard & Lea, 1859. pp. 1162, 1198.

RICH as is our language in surgical works, we have as yet no Cyclopedia of Surgery. The work of Costello which promised to supply this deficiency unhappily failed, while the Dictionary of Cooper is little more than a poor translation of Boyer's *Maladies Chirurgicales.* The only work that approaches the character of a cyclopedia is that of Chelius as enlarged by South. This is, however, wanting in everything essential to a complete compend of theoretical and practical surgery. The effort to supply this hiatus in our surgical literature has been often, but hitherto indifferently made. Among the multitude of publications on surgical subjects there is none that with comprehensive grasp has gathered up the scattered fragments of this great whole, and reproduced a system in which every principle has found its proper and appropriate place. Such a work is, we believe, greatly needed, but to be of value it should contain such a thorough and searching discussion of every subject in Surgery as to render it at once the highest standard of authority; in a word, it should be as complete in any given department of practical surgery as the most recent and accurate monograph.

We were at first disposed to give to this System of Surgery the rank and consideration of such a work as we have alluded to. For the author says: "My aim has been to embrace the whole domain of surgery, and to allot to every subject its legitimate

claim to notice in the great family of external diseases and accidents." Again: "It may safely be affirmed, that there is no topic properly appertaining to surgery, that will not be found to be discussed to a greater or less extent in these volumes." A cursory examination satisfied us that the above assertions were correct; no surgical subject or topic of importance seemed to have escaped the author.

But a discriminating criticism occupies itself rather with the quality than the quantity of the material presented, and a correct opinion of the value of any work must be based entirely upon the consideration of individual subjects, and not in any respect upon their variety and extent. Viewed in this light the work before us, with all its latitude of subjects, loses its cyclopædian character. Some portions are elaborate and complete, while others are incorrect in historical details and meagre in the discussion of principles and rules of practice. It is not sufficient in a work of such pretensions to present a mere outline of many subjects; they should either be fully and fairly brought before the reader, or omitted altogether. Our libraries are now filled with the most elaborate and valuable monographs upon special surgical diseases, and the writer of a system of surgery cannot profitably introduce such subjects into his work, unless he determine to rival these special treatises. In that case he will truly write a Cyclopedia of Surgery, and embrace a library within a single work.

We must conclude, therefore, that we did not at first correctly apprehend the scope of this work, so broad the foundation upon which it was based, and so deficient in the proportions and finish of the superstructure. It was apparent if the author designed to embrace all useful surgical knowledge in his system, as he had all surgical subjects, the work must be pronounced a failure. It was equally apparent, on perusal, that if he designed to give an outline of surgery, with sufficient detail for the practical surgeon, omitting certain subjects better treated in monographs, the work was well adapted to its purpose. The subjects which we allude to are syphilis, diseases of the eye and ear, affections of the urinary organs, &c. No intelligent surgeon will ever consult these chapters when he can so readily refer to the various special treatises upon these subjects now in every practitioner's library. The meagre yet necessarily lengthy discussion of these several subjects adds greatly to these already overgrown volumes, without enhancing in a corresponding degree their practical value.

Regarding the work from the latter point, and with the exceptions given, we may add that we have examined it with great interest and profit, and recognize in the author, the surgeon of large experience, of sound judgment, profound and varied learning, and of that high moral principle which adds lustre to the character of the surgeon above that of other men. This System of Surgery is divided into two parts, the first being devoted to general and the second to special surgery; the former occupying about one-

fourth of the entire work, the latter the remaining three-fourths. The subjects treated in Part First pertain to the principles of surgery, and upon these the author lays special but not undue stress. For nothing is better established than that to be a correct practitioner of surgery, the student must have a correct and accurate knowledge of its principles.

The views of Prof. Gross are so well known through his various publications upon most of the topics in this division of his treatise, that we shall pass it with a somewhat cursory notice, and hasten to the more practical portions of the work.

In the chapters on Inflammation and its results, the author enters at length into the consideration of the phenomena of this process, and reviews in order the signs, symptoms, and morbid changes as they successively present themselves. The definition of the term inflammation, which is so variously given by authorities, is of very little importance, provided we correctly apprehend the nature of the changes which occur during its progress. We are glad, therefore, to find so eminent a teacher of surgery as Prof. Gross wasting so few words upon the intimate nature of inflammation, that subject of endless speculation, but recognizing the few facts as yet well established he enters fully into the various practical questions to which this affection gives rise. Although there are occasional opinions expressed in these sections to which we cannot give our assent, yet in the main the author's teachings so well accord with the generally received doctrines of modern pathology that we cordially commend them to the patient study of the surgeon.

The chapters on Textural Changes and Malformations, present briefly changes which occur from perverted or arrested nutrition.

In Chapter vii., the author enters at length into the subject of Tumors. The definition of the term is not altogether happy.

An eminent surgeon of our acquaintance, when in doubt as to the nature of any obscure swelling, is accustomed to give the following facetious diagnosis: "In my opinion it is a tumor." Prof. Gross' definition—"an enlargement of a part, structure, or organ, produced by abnormal deposit," would seem to render that gentleman's diagnosis quite correct. We do not, however, like either the diagnosis or definition, for both are vague and indefinite. We can refer to many instances of abnormal deposits which it would be absurd to denominate tumors. For this definition would include the symmetrical enlargement of organs, or of a limb, depending upon simple hypernutrition. We much prefer the definition of Paget, who makes the distinction between simple hypertrophy of an organ or part, and that development which constitutes a tumor, that in the former the normal type of the structure is preserved, but in the latter it is lost.

In the consideration of the intimate nature of the various morbid growths, their malignancy, and the proper treatment of each variety, the author reproduces his views, which are already well

known to the profession. This subject opens a wide field for discussion, but we believe the propositions herein established are those generally received.

Scrofula is the subject of the following chapter. Prof. Gross here repeats with great emphasis his belief in the identity of scrofula and phthisis, in the organizable nature of tubercle and in its essential nature. He, however, does not offer any other proof of the correctness of his opinion than the general assertion of his belief. We might quote against these views such authorities as Virchow, Paget, Bennett, Simon, and others. We cannot, therefore, accept the doctrines which the author enforces with such apparent satisfaction without at least a show of reason.

Wounds are considered at great length, and are followed by a short section on the effects of injuries upon the nervous system, which is full of interest. The nature and treatment of prostration and shock, and traumatic delirium, are ably considered, and should be studied by every practical surgeon. Passing the chapter on Syphilis, we have a section on General Diagnosis. The methods of examining patients by external examination, and of exploring diseased tissues by instruments; the uses of the microscope, and the value to be attached to its revelations, are pointed out with such minuteness as to render this section a valuable guide to students.

Minor Operation and Plastic Surgery are considered in the three following chapters.

Chapter xvi., on Subcutaneous Surgery, though occupying but five pages, is worthy of a passing notice.

According to our author Stromeyer "was the first to discover and to practise a subcutaneous operation, the undertaking consisting in the division of the tendo-Achillis for the cure of club-foot. The operation was performed in February, 1831, and eventuated in the complete restoration of the use of the limb." There is, however, a previous history of this operation which the writer of a complete work on surgery should not overlook. Fifty-seven years before the operation of Stromeyer, viz., in 1784, Thilenius, of Frankfort, assisted by Lorenz, divided the tendo-Achillis in a case of talipes-equinovarus (not, however, subcutaneously) with complete success. Twenty-two years after, in 1806, the famous Sartorius also divided the tendo-Achillis, in a contracted foot, restoring the foot to its proper position, but at the expense of anchylosis of the ankle. In 1809 Michaelis divided the tendo-Achillis for talipes equinus, and within the following year he performed tenotomy eight times. But in 1816, Delpech, of Montpelier, performed subcutaneous tenotomy for the first time in the annals of surgery. The case was one of talipes equinus, and after reflecting that in the cases of rupture of the tendo-Achillis, which he had witnessed, an intermediate substance united the extremities, he says: "I proposed that the tendo-Achillis should be divided near the heel, leaving the skin which covers

it *in situ*, and thus without exposing the tendon to the air or the contact of dressings or bandages." When union was complete he determined by proper apparatus to extend gradually this intermediate substance until the foot was placed permanently in its proper position. The proposition was submitted to several practitioners, who treated it with scorn, but he boldly carried out his plans, and was rewarded with success. He thus describes the operation: "May 9, 1816, I operated in the following manner: The patient being laid on his face, the knife was passed from side to side in front of the tendon, so as to divide the skin on both sides to the extent of one inch parallel to the tendon. The knife was then exchanged for a convex bistoury, with which the tendon was divided transversely from before backwards, without injury to the covering skin." Subsequently Delpech published his *L' Orthomophie*, which contained the following rule for the subcutaneous division of tendons: The tendon to be divided should not be exposed; its section should be made by entering the knife at a distance from the tendon, and not through an incision in the skin parallel to it. There is danger of exfoliation of the tendon without this precaution is taken. Thus is established the fact that subcutaneous surgery was practised prior to 1831, and to place Stromeyer in a proper historical relation to the discovery and practice of this operation, it will suffice to add that Delpech's work from which we have quoted, was published in 1828, three years before Stromeyer's operation, and was well known and highly appreciated by the latter surgeon.

Amputations in General, the subject of Chapter xvii., will be read by practical surgeons with great interest and profit. Every one who has had frequently to settle the questions to which severe injuries of the extremities give rise in regard to the proper treatment to be instituted, whether amputation be required, and if so, at what period it shall be performed, what point shall be selected, and what method shall be adopted, will recognize in this chapter the judicious teachings of ripe experience combined with sound judgment. We especially commend to the study of the young surgeon the sections on the *circumstances demanding amputation*, *the affections of the stump*, *and the constitutional effects of amputations*. No one can properly discharge his duty to his patient, who does not study these questions minutely, and act intelligently with reference to them. The method of operating, though important, has but a trivial influence upon the results of the case in comparison with the determination of the questions herein involved. The concluding section is on *mortality after amputations*. The statistics introduced are those so frequently quoted of Drs. Norris, Lente, and Hayward; they are as accurate, perhaps, as any hospital statistics of the kind, but they should be regarded as only approximating the truth. It would have been more satisfactory, though the conclusions would not have been materially changed, had the author drawn his statistics from more

recent publications, of which the past year or two furnish several of an important character.

Passing over the following Chapter (xviii.) on *Excision of the Bones and Joints*, we come to the concluding chapter of Part I. which treats of *Anæsthetics*. Prof. Gross is an advocate of these agents, and in his large experience has fortunately never met with any serious accidents from their use. He ascribes his success to the cautious manner in which he employs them, either administering the agent himself, or confiding it to a trustworthy assistant. The rules which he gives ought to be regarded by every practitioner, and enforced in our hospitals, where the most culpable carelessness in this respect prevails.

The first four chapters of Part Second, treat of Diseases and Injuries of the Skin, Muscles, Ganglia and Tissues, and are followed by a chapter on Diseases and Injuries of the Arteries which occupies the following 154 pages. This chapter embraces the entire subject of aneurisms, and the various operations for their cure. It is one of the most elaborately written and valuable chapters of the work, and will long remain the most complete summary of facts on this subject in our language.

The *Diseases and Injuries of the Joints* (Chap. viii.), including dislocations, are very fully considered. The section on *tuberculosis of the joints* is worthy of the most attentive perusal, as it embraces the generally received views of the pathology and treatment of this obstinate class of affections, with the valuable experience of the author. The type of these diseases is that known as morbus coxarius, and to this the author devotes the principal part of the section. In the treatment of hip-disease Prof. Gross lays great stress upon the importance of maintaining absolute rest, the patients remaining in the recumbent position. That absolute rest of the articulation is of the first importance in the cure of hip-joint disease there is no doubt, but the danger of debilitating the system in the effort to secure this result is imminent, and should not be overlooked. There is happily a method of securing rest to the joints, and of still giving the patient a sufficient amount of exercise to maintain the general health, which will ere long be universally acknowledged. By means of an extending and counter-extending apparatus, it is possible to withdraw the head of the bone sufficiently from its socket to relieve entirely the suffering from this source, and still allow the patient to take exercise. This apparatus will, we think, add much to our means of treatment of hip-joint disease. In the second stage, Prof. Gross considers the issue as "the only reliable local remedy." When suppuration is established, he recommends the artificial evacuation of the pus by a valvular opening, and states that such has been his practice for twenty years in all joint diseases. In this practice Prof. Gross represents the views of the best surgeons of our day. Excision of the carious bone is to be practised, but amputation at the hip-joint for the relief of hip-disease, as executed by Dr. Duffie, is not regarded favorably.

Dislocations are considered at length, first the general subject, and second, special dislocations. Under the former head we are pleased to notice a section on *chronic, old, or neglected dislocations;* a subject that is too frequently but slightly noticed by authorities. The difficulties and dangers to be encountered in the treatment of old dislocations are noticed by the author, who acknowledges the reluctance with which he encounters them. The important question to be determined is, at how late a period is it proper to attempt reduction? Sir A. Cooper thought three months for the shoulder, and eight weeks for the hip, as the limit beyond which it would be imprudent to make such efforts. But Nathan Smith, of New Haven, reduced a shoulder dislocation nearly one year after the accident, while dislocations at the hip have been reduced of from three to six months' standing. Prof. Gross makes the following judicious remarks: "Every luxation must rest, so to speak, upon its own merits, as far as the question of its restoration is concerned; for, as has just been stated, while one joint becomes irreducible in a fortnight or a month, another, differently constructed, may remain reducible eight weeks, or even much longer. A much better rule by which to decide this question is to judge by the extent of motion of the affected bones, the previous attempts at replacement, and the degree of inflammation consequent upon the injury. If the joint is very stiff and tender, if the luxated head has contracted firm adhesions, involving, perhaps, a large artery, or some other important structure, and if, in addition to this, there is reason to believe that the socket is filled up with new matter, any attempt at reduction would not only prove abortive, but might be followed by very serious accidents, jeoparding life and limb."

The rules given in reducing old dislocations are most judicious. The part is first to be prepared for the operation by systematic movements, and by such general treatment as will reduce the patient, if he is plethoric, to avoid severe inflammation. The design of the movement of the limb is to overcome gradually the adhesions which have formed, and hence the limb is to be moved in every direction, at first, once a day, and finally, every twelve hours. These movements are to be continued at least a fortnight, free use being made of sorbefacient lotions, with minute doses of mercury, continued to slight ptyalism. The operation is to be conducted in the usual manner, bearing in mind, however, that the object of extension and counter-extension is not to fatigue the muscles, but to extend and stretch their fibres, shortened, hard and tense in consequence of long disease and inflammatory irritation. Violent measures should, under no circumstances, be resorted to, as they would not only tend to increase the resistance, but to cause dangerous lacerations. If the operation fail, it must not be repeated too soon, but attention should be paid to the joint, and the inflammation reduced.

We agree with the author that far too little attention is ordi-

narily given to the preliminary treatment in the reduction of these dislocations; if the rules here laid down are carefully followed, the chances of success would be greatly increased and the dangers equally diminished.

Passing over the special dislocations which conclude this volume, we open volume second with *diseases and injuries of the bones and their appendages.* This chapter, extending over 230 pages, is replete with matter of practical interest to the surgeon, as it embraces, in addition to the various affections of the bones, that most practical of all subjects, *fractures.* We can only refer to some points of interest in the latter division.

Prof. Gross is not a believer in the new doctrine of the repair of bones without callus, for even in the repair of fractures of the cranium he detects a sufficient quantity of osseous matter to prove its necessity under circumstances the most favorable to union without it. We think, however, the investigations of Professors Paget and Hamilton have satisfied the great majority of intelligent surgeons that the opinions of Dupuytren are not to be accepted as explanatory of the method of repair of all forms of fractures.

In the general treatment of fractures we are glad to find our author urging the immediate application of bandages and splints, contrary to the too prevalent and pernicious advice of teachers of surgery, to delay treatment for several days. With great force he says:—"It appears singular that upon a subject so clear as this, there should be any difference of opinion. It certainly requires no great knowledge of the nature of accidents, to discover why such cases should receive the earliest possible attention; as long as the ends of the fragments are permitted to remain apart, their tendency inevitably must be to excite spasm and inflammation, thereby increasing the suffering of the patient and retarding his cure. * * * We might as well expect that a man's limb would do well if it had a thorn imbedded in its muscles, as that it would be comfortable with two pieces of bone sticking in them. It is an absurdity to think it could be otherwise." The early dressings should, of course, be applied with due regard to the swelling that may follow.

Prof. Gross claims, and very justly, to have been the first to call attention to the employment of adhesive strips in the treatment of fractures, in his Treatise on the Diseases of the Bones and Joints, published in 1830. Since that time he has been accustomed to employ them in his practice. The immovable apparatus finds a strong advocate in the author, but he is adverse to its employment until the inflammation has subsided.

The question of amputation in complicated fractures is thus decided:—"It should always be resorted to, as a general rule, whenever, along with a shattered or comminuted condition of the fractured bone, there is an extensive laceration of the soft parts, with almost total disorganization of their substance." This

rule is proved by experience to be the middle ground between an indiscriminate sacrifice of shattered limbs, and that less culpable but dangerous temporizing which needlessly jeopardizes life.

In the treatment of ununited fractures, Prof. Gross speaks disparagingly of Brainard's method of perforating the fragments, and adds that he has tried it in several instances, but without effecting a single cure. The method of wiring together the extremities, as practised by Rogers, is, in his opinion, if properly performed, "entirely free from danger." He has operated but once, and on the success of this case seems to base his opinion; it is doubtful if a larger experience would not materially modify this opinion.

Special fractures are treated with sufficient latitude to render this portion of the work a satisfactory guide to the practitioner. The rules for treatment, and the appliances recommended in individual fractures, evince the large experience and the sound judgment of the author.

Injuries and diseases of the head is the subject of Chapter Second. After passing in review the various affections and injuries of the head, the author enters upon a consideration of the lesions of the skull, followed by cerebral complications. One of the most difficult questions occurs in this connection for the surgeon to consider, viz., under what circumstances shall the trephine be employed?

Prof. Gross is a strong but consistent advocate of the trephine, and recommends its employment under circumstances scarcely sanctioned by our best surgeons. In simple fracture, with considerable depression, and in compound fracture with or without compression, he urges immediate interference for the elevation of bone. This is debatable ground upon which we shall not enter, but simply remark that the rules given are generally so judicious, that the enlightened surgeon who follows them can scarcely go amiss.

Our limited space forbids an analysis, however brief, of the remaining subjects of this volume. They relate to the diseases and injuries of the spinal cord and column; of the eye; of the ear; of the nose and cavities; of the air passages; of the neck; of the chest; of the jaws, teeth, and gums; of the mouth and throat; hernia; diseases of the rectum and anus; wounds of the abdominal organs; diseases of the urinary and genital organs; excision of the bones and joints; amputations; affections of the extremities.

These concluding chapters, like those we have passed in review, are of unequal merit, varying evidently in completeness with the interest and experience of the author. They may, however, all be profitably consulted, for even the most superficially written contains the opinions of one who is hereafter to be long recognized as our highest surgical authority.

In concluding this notice, we may briefly state our convictions of the general character of this System of Surgery, and the posi-

tion it is destined to occupy in our surgical literature. The scope of the work is evidently far too great, not, we believe, for the author's literary abilities, but for the limits within which he has confined his labors. However necessary to a course of lectures, we can but regard as a fault the attempt to embrace in a work of limited capacity—the whole domain of surgery; for, however complete some portions may be, others can but be considered as indifferently prepared; while many subjects already fully treated in monographs, the reader will pass without even a reference. The style of the author is peculiar, and not well adapted to a systematic treatise on a scientific subject; it often lacks point and vigor, and is generally too discursive.

Notwithstanding these defects, almost inherent in a work of such pretensions, this System of Surgery is, we predict, destined to take a commanding position in our surgical literature, and be the crowning glory of the author's well earned fame. As an authority on general surgical subjects, this work is long to occupy a pre-eminent place, not only at home, but abroad. We have no hesitation in pronouncing it without a rival in our language, and equal to the best systems of surgery in any language.

Finally, to Professor Gross the medical profession of this country is under renewed obligations for his earnest and well directed efforts to give us an American Medical Literature. No one has labored to this end with such indefatigable zeal, and no one has contributed as much, by his own writings, to elevate our literature in the opinion of the world. We cheerfully and heartily accord to him the honorable and exalted position of the representative author in our medical literature.

On the Diseases and Injuries of the Joints, Clinical and Pathological. By Thomas Bryant, F.R.C.S., Assistant Surgeon, Surgical Registrar, and Lecturer upon Operative Surgery, at Guy's Hospital. London: John Churchill, 1859, pp. 273.

Although the affections of the joints are more frequently met with in hospital practice than any other class of surgical diseases, yet we doubt if they are as well understood as many of the more rare and less important maladies which come to the attention of the surgeon. And yet no affections more readily admit of investigation, and lead to more important practical results. The literature of this class of diseases, especially in our language, is also very deficient. Previously to the appearance of Brodie's admirable work in 1818, the treatises of Russell, Cooper, and Ford, were the only special publications on the diseases of the joints to which the English students could refer. From that period to the present, although histological research has added largely to our knowledge of the structures of the joints, the pathological investigations of these organs has not advanced in a corresponding

degree. The work of Brodie, indeed, in its several editions, may be considered the standard treatise in our language during that entire period. We would not, however, overlook the important contributions of Coulson, Adams, Blackburn, Redfern, and others, which have added much to the literature of this subject.

A new work, therefore, on the diseases and injuries of the joints, would seem to be particularly demanded. The work of Mr. Bryant is submitted to the profession, not as a complete treatise, but as a contribution to the Clinical surgery of the diseases and injuries of the joints. The cases which illustrate these affections have for the most part passed under the author's own observation in the hospital to which he is attached.

The work is divided into two parts, the first being devoted to *Diseases of the Joints*, and the second to *the Injuries of the Joints*. In the first division are the various diseases of the synovial membrane, articular cartilages, articular extremities of bones, disorganization of joints, anchylosis, &c. The second part includes sprains, wounds, dislocations, fractures, &c. Each section is abundantly illustrated with Clinical cases, which add much to the practical value of the work.

In looking over the different chapters many points of interest present themselves to our notice, few of which we can dwell upon.

In chapter ix. the author discusses the question of Amputation or Excision. "If," says he, "the diseased joint should be the shoulder or elbow, and if there is a chance of removing the disease, and thus of preserving the extremity and hand, there is no doubt, amongst surgeons, that the operation of excision should be preferred. Such an operation as amputation for disease of a shoulder or elbow-joint should be regarded as being almost out of all question. The operation of excision is generally successful, and although many months may perhaps pass away before the true benefit of the operation has been proved, the importance of the hand is such, that time becomes of little account in the cure, where subsequently it may be saved. At Guy's Hospital amputation for diseased elbow-joint is so rare, that in five years but one case has taken place, and, in the same period, eight excisions of the elbow have been performed, with one death, and with one subsequent amputation; in the remainder a good arm was preserved."

In regard to excision of the knee-joint, the author decides in favor of amputation, except in cases where the disease originates in the extremities of the bones. He gives as the mortality from amputation of the thigh, 1 in 7, while that of excision of the knee, as stated by Butcher and Price, is 1 in 5.

Thirteen cases of loose bodies in the joints have occurred in Guy's Hospital in five years. Of these two were removed without a bad symptom; in a third an attempt was made, but the cartilage slipped away; in the remainder palliative treatment was employed. The latter course, which consists in restraining the motions of the joints by bandages, is recommended.

A summary of the diseased joints which were admitted to Guy's Hospital for five years, is given on page 175, as follows: Whole number, 522; hip, 160; knee, 219; ankle and foot, 62; shoulder, 6; elbow, 56; wrist, 19.

In concluding this brief notice, we must express our satisfaction with the work. We cordially recommend it as a safe guide to the practitioner.

These various subjects are discussed in a concise but intelligent manner. The author has a practical mind, as is shown in the absence of theoretical speculation, and in the importance attached to the method of treatment.

A Knowledge of Living Things, with the Laws of their Existence. By A. N. Bell, A.M., M.D., late P. A. Surgeon U. S. Navy, Physician to Brooklyn City Hospital. New York: Ballière Brothers. 1860, pp. 318.

This work is designed to popularize the study of natural science by unfolding to the beginner the laws which govern the development and growth of living things. Commencing with a general survey of the kingdom of nature, the author proceeds to consider the properties of inorganic matter, and then traces with ample illustrations the laws which control the organic world. The style of the author is easy, but classically correct, and well adapted to the general reader or the student. The work is better adapted as a text book of natural science than any with which we are acquainted. The numerous and beautiful illustrations are an attractive feature of the volume.

An Epitome of Braithwaite's Retrospect of Practical Medicine and Surgery. In Five Parts. By Walter S. Wells, M.D. Published for the Author, by Charles T. Evans, New York. Parts 2 and 3.

This publication consists of a condensed summary of all the matter which has appeared in the forty published volumes of Braithwaite's Retrospect. From an examination of the two parts which we have received, it is apparent that the author has undertaken a most important work. The original publication extends over so long a period, and has now become so voluminous, that it is not easily obtained by physicians, nor readily consulted by those who are so fortunate as to possess it. This epitome presents in a small compass a bird's-eye view of the whole, each article being sufficiently full for consultation. It is to be completed in five parts.

PART THIRD.

MEDICAL RETROSPECT.

Report on the Progress of Obstetrics and Diseases of Women. Prepared for the NEW YORK JOURNAL OF MEDICINE. By E. NOEGERRATH, M. D., Physician to the German (Canal Street) Dispensary.

1. ED. VON SIEBOLD.—*Occlusion of the Os Uteri a Cause of Dystocia.*—(*Monatsschrift f. Geburtsk.* August, 1859.)

In 1825, the great Vienna accoucheur, Dr. W. T. Schmitt, published a number of cases, exhibiting filmy thin conglutinations of the uterine os, which, though easily broken with the finger, resisted the efforts of nature to overcome this obstacle. In the same paper he makes the remark that there existed in some instances a sort of occlusion of the uterine os in parturient women, consisting of a slight superficial conglutination of the extreme margin of the uterine lips, which might be properly called an *organic coagulation*, in which instance the structure of the vaginal neck does not offer the slightest trace of an abnormal induration, rigidity, or any other change. This condition being comparatively but little known to obstetricians in general, Dr. Schmitt considers it of importance to call anew the attention of the profession to this interesting phenomenon. About the same time Madame Lachapelle published her *Pratique des Accouchements*, and on page 298 of that work she notices this conglutination in the following manner: "We have seen, on several occasions, that the external orifice of the vaginal neck was occluded by a gelatinous and thick mucus, thus escaping the search of the obstetrician, in such a manner, that the vagina appeared to run out into a *cul de sac* without any opening; we have seen it so firmly agglutinated, that it yielded only after long and violent pains, and after an excessive extenuation of the surrounding edges, so much so that at first it seemed as if it were only the fœtal membranes which separated the finger of the accoucheur from the fœtal head." From this quotation it is evident that the abnormity we are speaking of was perfectly well known to the authoress. Ten years later Dr. Nægele, jr., published a thesis on *Magostocia e Conglutinatione Orificii Uteri Externi*, Heidelb., 1835, 8vo., in which he did full justice to the same subject by adding fresh observations to those already existing. Ever since that time, almost all of the obstetric manuals have been sifting this matter; and while they abolished all instrumental interference heretofore in use, they recommended a milder and less dangerous proceeding. Thus it became a rule to rupture those

membranes by the finger or catheter, in order to free the passage for the child's head. But as there are only a few cases of this nature recorded in literature, it may be not amiss to increase the number of observations by one case, which has been treated of late by Dr. Siebold. It reads thus:

Catharine K., 24 years old, a primipara, was first taken in labor on the second of July, at about 7 o'clock P. M. From a statement of the examination performed by the midwife, no opening of the os uteri was perceptible, the vaginal neck had not entirely disappeared, and the vertex of the child presented; during the night there were slight labor-pains. On the third of July, when Dr. Siebold first saw the patient, the os uteri was perfectly dilated; the amniotic bag protruded far into the vagina, but had an unusually solid feel; it swelled out during the pain, and relaxed afterward, easily permitting the head to be perceived with its sutures and fontanelles. It must be remarked, however, that this representation was erroneous, although the mistake was very pardonable; twelve hours having already passed since the commencement of the pains, and without disclosing even a trace of the orifice. Besides, the apparent amniotic bag did not present an unusual appearance, unless it were an uncommon density of structure; it even expanded during the pains, and protruded almost as far as the os externum. Certainly the pains were somewhat unlike those observed toward the end of the second period of labor; they were abrupt, and of very short duration. Although the patient was placed on her left side, this had not the least effect upon the progress of labor; it was therefore resolved to rupture the apparent amniotic membranes. Dr. Siebold now introduced his finger during a pain, and discovered a fold toward the left side, and posteriorly, against which he pressed his finger. This place was no doubt the edge of the os uteri. With a certain degree of force, the os uteri could be freed from the thin mucous tissue which covered it, the finger passed, and the os could now be made out distinctly, and inside of it the real membranes, as well as the fœtal head. During all this procedure, the woman exhibited not the slightest symptoms of pain; from that time the os dilated rapidly, the pains became stronger, and at about 4 o'clock P.M. the membranes burst open, and the head advanced in the first presentation toward the outlet of the pelvis. But as the head remained in the same place for over an hour, and as the pains were growing weaker, the forceps was applied, by which a living female child was delivered. In a few remarks added to this paper, Dr. Siebold points to the fact that similiar mistakes had occurred to some of the best-known obstetric authorities.

2. Breslau.—*A New Case of Halisteresis Cerea.*—Deutsche Klinik, 36, September, 1859.

An analysis of Prof. Kilian's work on halisteresis (osteomalacia) cerea, was presented to the readers of the *New York Journal of*

Medicine in 1857. The following is a new case illustrative of this interesting pelvic anomaly.

Mrs. Verona, Pf. of Baretschioyl, near Zürich, 42 years of age, entered the Lying-in Hospital in November, 1858; born in 1816 of a healthy mother, she had enjoyed perfect health during her infancy, and she never suffered from scrofulosis or rhachitis. At the age of twenty-one she was married; during the first three years in succession, she had a miscarriage in her third month of pregnancy. The patient living in very restricted circumstances, she was obliged to resume her usual hard work two days after each of the above-mentioned accidents. In the four subsequent years, she gave birth to two full-grown children. Five years ago she had her fifth child, which was delivered by turning, on account of a cross presentation. With the exception of a slight weakness of her general system, she had enjoyed pretty good health up to about a year since, at which time she again miscarried, and had a savere hemorrhage which lasted four days. After this time she began rapidly to fail in strength, to which was superadded a dull pain along the spinal column, in consequence of which she was compelled to stay in bed for the greater part of the day. Nevertheless, the patient became pregnant again after she had her last courses on the 11th of April, 1858. Her condition, as it presented itself on the 6th of November, was the following: The first impression she presented was that of a woman who had been suffering for a long time. The spinal column was inclined toward the right side in its dorsal portion as much as 1½″, and in the lumbar region there was a compensatory deviation to the left; arms and legs were straight, well formed, but very thin; pulse quick, seldom below 100; skin hot, at times covered with a clammy sweat. The specific gravity of her urine was 1005, free from albumen and sediment, of an acid reaction; amount of phosphates not increased. Her slightest movements, even when in perfect rest, were attended with pain; all parts of the skeleton, with the exception of the skull, legs, or forearms, gave pain on being touched, but more remarkably so the bones of the thorax, the trochanters, the iliac bones, and the symphysis pubis. The pelvis on being examined, offered unmistakeable signs of osteomalacia, well characterized by the beak-like configuration of the symphysis, and by so close a proximity of the pubic bones that it was almost impossible to pass the finger for examination. This obstacle was, however, conquered soon afterward by the introduction of a second finger, the joint pressure of which easily moved the pubic bones asunder, which latter seemed to be of a very soft and pliant substance, affording sufficient space for examination. The pubic arch remained in this artifical dilatation about twenty-four hours, but after that time it gradually returned to its former condition. The promontorium protruded considerably into the cavity of the pelvis, the excavation of the os sacrum very striking, its lower portion as well as the os coccygis, in an almost horizontal direction; the edges of the iliac bones curved inwardly. The

diameters of the pelvis appeared to be as follows: 1. Diagonal conjugate diameter, 3″ par. 2. Conjugate of the brim with symphysis and soft parts, 3″ 5‴. 3. Conjugate of the brim without soft parts and symphysis, 2″ 5‴. 4. From the apex of the os coccygis to the lower margin of the symphysis, 2″ 5‴. Distance of tubera ischii, 2″. These measures were taken by Van Huevel's pelvimeter with the assistance of the forefinger.

This was, therefore, a specimen of a pelvis softened and contracted to the utmost degree by osteomalacia, which from its configuration would present the greatest obstacle to the passage of the child; and this was the more to be apprehended, because it was impossible to decide whether the pelvic entrance would be dilatable at the time of delivery or not. Dr. Breslau decided, therefore, to induce premature labor at the end of the 29th week; the chances of a safe delivery for both mother and child, inclining more toward an evil than a good result. This, however, was anticipated by nature itself. On the 12th of November, the patient was seized with a violent attack of fever, followed immediatly by strong labor pains, which, up to 6 o'clock P. M. of the following day, had developed the uterine os to its full extent. At 7 o'clock P. M. the membranes burst open, and now the buttocks were found the presenting part of the fœtus. The left hip came down first, and in two hours and a half a dead child was born weighing two and a half pounds; altogether the child was not sufficiently large and solid to have needed any considerable amount of dilatation of the pelvic cavity during its passage; nor was this occurrence observable during its delivery.

On the 22d of November the pelvis was again examined, and it was readily ascertained that the bones had lost nothing of their pliability. From the time of her confinement, the patient began to suffer considerably, not only from her old complaints, viz., the great pain in her bones, but equally so from a very distressing cough, attended by a profuse discharge from the lungs, and a very low feverish state of her general system; still, with the use of strong doses of cod-liver oil, Seltzer water, and some medicine to promote expectoration, she had so far recovered from all her different complaints, that on the 10th of January the pain in the bones had entirely ceased, the cough was considerably reduced, and she had gained in strength.

Upon internal examination, however, the arcus pubis presented so much convexity and contraction, that only the first phalanx of the forefinger could be passed; the pliability of the pubic arch existed no longer. The weight of the patient was only fifty-nine pounds. The facts resulting from the foregoing case, are as follows:

1. The softening of the bones of the pelvis and the greatest part of the thorax, took its origin in an abortion. It is probable that in connection with the existing predisposition, her damp lodgings, as well as the unhealthy food, and the numerous labors and

abortions, had influenced in some measure the development of her disease.

2. The bilateral compression of the pelvis was in this instance, as in most others, the consequence of a pressure upon both trochanters, caused by continued lying on one or the other side. From her occasional attitude in a half-sitting position, the lower and posterior portion of the sacrum was flattened, and the os coccygis approached the pubic arch.

3. The mollification of the bones assumed its greatest intensity eight or fourteen days after delivery. Pain and tardiness of motion kept pace with the progress and decline of the corruption of the bones.

4. The softness and pliability of the bones disappeared by degrees, the formerly mollified bones regained their natural hardness; and it may be therefore concluded, that,

5. A perfect disappearance of the osteomalacia cerea had taken place in this instance, promoted as it was, to a great extent, by the large and long-continued doses of cod-liver oil.

6. As far as the author was able do judge about it, there existed no tendency to frangibility of the bones, but it is not unlikely, that with the progress of atrophy of the bones, the former pliability might be substituted by a brittleness and frangibility of the same.

7. To the obstetrician it is of the greatest importance to know exactly in what manner he has to act, when he meets a case of decided osteomalacia pelvis. Dr. Breslau is of opinion that we should *not* place too much confidence in its dilatability. If it is detected in the early stages of pregnancy, the only safe way is to proceed to induction of premature labor or abortion. But if we have to treat a case of this kind at the beginning of labor, we should not decide at once upon Cæsarian section, but rather wait and see whether or not the pliability of the pelvic bones will permit the child to pass. In the latter instance, the head of the child will often serve as a cone, very apt to distend the softened bones. On the other hand, it must be called to mind that a Cæsarian section, when performed seasonably, is surrounded with less danger for both mother and child, than when it is performed in extracting a child whose head or nates have been allowed by too great inactivity of the accoucheur to become tightly wedged in the pelvis.

3. GRAILY HEWITT.—*On the Hydatidiform or Vascular Mole; its Nature and Mode of Origin.* (*Transactions of the Obstetrical Society of London.*) Lancet, November, 1859.

Cruveilhier was the first to demonstrate conclusively the non-hydatoid character of those bodies discharged from the uterus in cases of so-called hydatoid pregnancy, which view of the case has been established by many observations subsequently made. Many essential points in reference to the nature and mode of origin of

the hydatidiform or vesicular mole remain, however, still *sub judicio.* In the present paper it is attempted to reduce the series of facts already on record, into something like a system, and to offer a solution of certain questions not yet satisfactorily or clearly answered. The author then describes the particulars of a case in which a specimen of a hydatidiform mole was expelled from the uterus seven months after the birth of a first child, and during the process of lactation. The patient did not suspect her pregnant condition, but for about six weeks the milk had increased in quantity, and fulness of the lower part of the abdomen and constipation had been noticed. The ovum, expelled entire, was apparently about two months old, and on examination, offered a most perfect and interesting specimen of commencing hydatidiform degeneration of the ovum; the circumstance that the whole came away together afforded an opportunity of examining the parts as they had lain in the uterine cavity; the decidua uterina only was very slightly torn. On cutting vertically through the whole mass, the following appearances were met with: The amniotic cavity was empty; no embryo was discoverable; the chorion and amnion membranes were adherent, about half of the chorion villi (the whole of those corresponding with the decidua serotina) presented the hydatidiform change; the remainder were covered by the decidua reflexa, shrivelled and small. The chorion villi proceeded from the chorion membrane, in their passage toward the decidua serotina, becoming enlarged at intervals into rounded bladder-like bodies, one-sixteenth to one-sixth of an inch in diameter. Microscopic examination showed these vesicular bodies to possess the same structure as that of normal chorion vilii, but the cells on the surface were wider apart, and the villi distended by a serous fluid, giving rise to the enlargements. The appearances observed did not differ materially from those described by Cruveilhier, Mettenheimer, Gierse, Wedl, and others.

The point respecting which opinions have been divided is, what is the nature and cause of the change in the chorion villi, which results in the production of these hydatidiform bodies? Mettenheimer, followed by Paget, declares them to be cysts, while Gierse considers that the change consists in hypertrophy of the natural structures of the chorion villi with secondary œdema. The "cyst" view the author dissents from altogether, and considers it positively disproved by observation of the specimen and the drawings of the same produced, and by comparison of the altered villi with normal villi at about the same period of development. From this it would be seen that in the normal villi, and in the altered ones, we have precisely the same structures; it is not, then, necessary to have recourse to a cyst theory to account for the appearances. The cells on the surface of the villi, are seen alike in the two cases; the vesicular enlargements evidently do not originate in them, and Gierse's opinion as to the essential anatomical character of the change, is far nearer the truth. In

fact, in the hydatidiform mole, we have not the new formation, but simply an attraction and degeneration of previously existing tructures.

The next point is: What are the circumstances which determine this pathological alteration? On this subject the author differs materially from previous observers. Universally the transformation has been supposed to be the starting point of the affection; that the disease of the chorion was the cause; the death of the embryo the effect. On the contrary he contends that the death of the embryo occurs first, the chorionic transformation subsequently. The hydatidiform mole results from a degeneration of structures arrested in their development. Death of the embryo involves arrest of chorionic development, but not necessarily cessation of vitality in the chorion villi; these may continue to grow, and this peculiar growth, for a persistence of which it is necessary only that the decidua be not separated from the uterus, will then result in the formation of the hydatidiform mole. After attaining a certain degree of development, the chorion villi does not appear to be capable of undergoing the change in question; the conditions necessary for that change are not present, and if the fœtus dies, no hydatidiform mole can be produced. The middle or end of the third month is probably the limit within which the change can originate.

With respect to the embryo in most cases of hydatidiform change, no trace of it is detected; when found it is always very small. The evidence on this poiut, then, shows that the embryo perishes at a period so early as to leave no traces behind, or that it does at a period roughly to be fixed at the end of the second month. We find, then, that all known facts are quite in harmony with the theory now offered as to the cause and nature of the hydatidiform transformation.

Some remarks are then made as to the cause of the death of the embryo in such cases. The author considers that in the case of the patient above described, and in cases like it, it is very probable that the death was due to long-sustained but slow contraction of the uterus, produced by the irritation of lactation. Such contraction would diminish the nutrition of the villi, and in the end cause the death of the embryo. As confirmatory of this opinion as to the influence of lactation producing abortion, some observations published by Dr. Barnes were mentioned. Dr. Barnes found that in a number of cases of abortion of non-special character, into the particulars of which he had inquired, abortion occurred in 17 per cent. of cases of conception during lactation, and in only 10 per cent. of other cases. As to the interesting question of the possibility of a portion of retained placenta taking on the hydatidiform change, the following opinion is offered: The placenta of a mature fœtus cannot be so changed, but appearances giving rise to an erroneous conclusion on this point may arise: 1. In cases of double conception, one of the ova perishing at an early

period, and the degenerated chorion villi remaining in the uterus after the normal birth. 2. In the perhaps possible case of a portion of the chorion villi having changed from accidental separation from the embryo, the remainder growing normally.

Lastly, the question, can true hydatids be expelled from the uterus? is considered. The author is inclined to admit the possibility of this occurrence. When so expelled the true hydatids arise, doubtless, in the uterine wall, and subsequently burst into the cavity of the uterus. A very simple examination would be sufficient to distinguish between such bodies and the hydatidiform cysts resulting from chorionic change. The fact that in true hydatids we find cysts inclosed one within the other, and in the other case round or oval bodies attached one to another like beads, would be alone sufficient to prevent the possibility of a mistake on this point.

4. Kueneke.—*A case of Placenta Prævia Succenturiata.* Monatsschr. f. Geburtsk. May, 1859.

Dr. Kueneke relates, at greath length, a case of placenta prævia succenturiata. The following are the important facts: A woman, aged twenty-three, said to be pregnant for the first time, was admitted into the lying-in hospital of Göttingen, on June 4th, 1858; whilst engaged in field-labor she had been suddenly seized with a profuse flooding, attended with weak labor-pains; forty-five minutes after this flooding she was in the hospital; the os uteri was partially dilated; auscultation revealed the sounds of the fœtal heart; the child was born alive by means of natural efforts; the after-birth was removed without difficulty in ten minutes; the placenta consisted of two perfectly distinct parts, the cotyledons being placed in two distinct points of the superficies of the chorion separated by a space of free chorion between; there was no vascular connection between the two portions of placenta.

5. Mattei.—*Appearances of the Yearly Ripening of Ova in Women.* Gaz. des Hôp. 22. 1859.

Dr. Mattei regards the theory of the monthly maturation of ova concurrently with menstruation as erroneous, and believes that for each ovary only one annual ripening takes place. The months of January, February, March, or April, are especially favorable for this maturation. The appearances of this condition come on at times very gently, at others very painfully. The general appearances are alteration of the voice, sleeplessness, at times neuralgias, prostration, vomiting, frequently palpitation, cough, hoarseness, without material change in the breasts. As local symptoms there are, sensation of weight or pain in the abdomen, from the sacrum to the thighs, and especially pains in that side of the pelvis on which the lymphatic glands are swollen and tender; there is also heat and excitement of the external genitals; the menstruation is disturbed; it is seldom rendered more profuse, more frequently more scanty, coming on earlier, and attended with nausea,

at times leucorrhœa, diarrhœa, dysuria, sympathetic symptoms in the breasts; the excitation of the ovarian region causes pain, nausea, even hysterical cramps; hematocele, peritonitis, and phlegmon may occur, according to the individual; these symptoms may last for four, twelve, or twenty-eight days, and disappear altogether, or pass into symptoms of pregnancy or false conception; the interval between the ripening of the ova in the two ovaries is variable; the minimum observed by the author was four days, the maximum five months. Dr. Mattei further says that this yearly ripening mostly ceases at the same epoch as the germination of plants, and the rut of animals.

6. Spaeth, *on Frontal Presentations.*—Oestenreich. Zeitschrift f. prakt. Heilkunde, No. 26, 27. 1859.

The frontal presentations are among the least frequently observed presentations, and have not been considered with sufficient care up to the present time. Among 14,424 births only seven frontal presentations were observed, that is one in 2,060 cases. In all of those seven instances pregnancy had been advanced to its full term, no unusual quantity of amniotic liquor had been present, and on every occasion only one child was born. With regard to these points there exists a parallelism with the facial presentations. Among the seven cases there was only one primipara. The diagnosis of this presentation could be made out in no instance by external examinations alone, but the sounds of the fœtal heart were perceived loudest on that side toward which the chest of the fœtus was directed. At the beginning the head occupied the lateral diameters of the pelvis, the large fonticulus being directed now toward the left, now toward the right side. The further development of progress of the mechanism of labor was the same in all cases, the face was turned in front, and on freeing the os externum the upper lip pressed against the symphysis pubis, the occiput rolled over the perineum, and at last the mouth and chin passed underneath the pubic arch, the configuration of the head was always the same, the forehead protruding considerably, the sides of the head very much compressed, and unsymmetrically so, inasmuch as that part of the head which looked toward the symphysis pubis, appeared concave from above downward.

The progress and duration of labor were very varying in the seven cases recorded; as a general rule the passage of the head is connected with more difficulties than it is under equal circumstances in facial presentations. Of the seven children only three were born alive; in two cases perforation was required; one was still-born after a very tedious labor; one died soon after delivery; one of the mothers died of metro-phlebitis; the other six left the hospital in good health; three of them, however, suffered in childbed from puerperal ulcerations, in consequence of the pressure caused by the passage of the fœtal head, while two of them went

through a slight endometritis, and one through a puerperal pyæmia. Therefore the prognosis with regard to the mother as well as to the child is very dubious, and generally considered unfavorable. The treatment has to be directed first of all toward preservation of the membranes, while the progress of labor has to be left to the sole efforts of nature as long as possible.

In cases of frontal presentations connected with slight pelvic contractions (antero-posterior diameter of $3\frac{1}{4}$ to $3\frac{1}{2}$″), the author recommends turning on the feet, because in such a manner the head might be easier delivered. In higher degrees of contractions the operation of turning would be of no use.

CORRESPONDENCE.

I. *Successful Employment of Acupressure for the arrest of Hemorrhage in the removal of a Breast.* Reported by Edward B. Dalton, M.D., Resident Physician at St. Luke's Hospital, N. Y.

On the 6th of March last, at St. Luke's Hospital, Dr. Geo. A. Peters applied acupressure for the control of hemorrhage after the removal of a cancerous breast. The needles were passed from the outside through the tissues, into the wound by the side of the severed artery, across the latter, piercing again the adjacent tissue and emerging through the integument, thus compressing the vessel between the needle and the superincumbent muscle. Such was the method adopted in each instance where torsion was not sufficient. Three needles were thus introduced with complete success. No ligatures were used.

The wound was brought together in the usual manner, and union by first intention followed throughout its entire length with the exception of a small opening in the axilla for the egress of pus consequent upon the thorough removal of the glands.

Three days subsequent to the operation the needles were withdrawn. No trouble ensued, and the patient had a rapid and complete recovery.

II. *Case of Œdema of the Glottis relieved by incision of the swollen Membrane.* By Frederic D. Lente, M.D.

T. A., 43, captain of a steamboat, a man of temperate habits, and excellent constitution, after exposure to severe cold at night, was attacked, January 4th, 1860, with "sore throat" of a pretty severe character; but after a day or two, under domestic treatment, it was relieved to a considerable extent, when patient again exposed himself on the ice. He was now attacked with more serious trouble about the fauces, and required my attendance. I

saw him on the 8th and found him suffering from great pain about the throat, almost total inability to swallow, and difficulty of breathing recurring at intervals, paroxysmal. Upon inspection, the fauces were observed to be intensely red, and slightly swollen, especially the left tonsil. Any attempt to swallow the smallest quantity of anything induced excessive pain, and spasm of the glottis. As the bowels were rather costive, he was induced, after considerable difficulty, to swallow a dose of calomel and jalap; and a solution of nitrate of silver, a drachm to the ounce, was applied to the fauces; was also to apply a warm cataplasm to the throat, and occasionally to inhale the vapor of boiling water poured on hemlock leaves.

Jan. 9th.—Was called out of bed this morning to see patient. Found him in great distress; the inflammation less intense about the fauces, but had evidently extended downwards, there was great tenderness on pressure over the *left* side of the larynx at a point corresponding with the situation of the root of the *epiglottis*, and total loss of the power of deglutition, the voice husky, the peculiar hoarseness which I had previously noticed in cases of œdema of the glottis;* there was also noticed slight difficulty of inspiration now and then; upon being desired to snuff air suddenly through the nose (an important diagnostic according to Dr. Buck), he found himself unable to do it. The medicine had acted. Has had no sleep for several nights, and is considerably exhausted from loss of rest and food. Patient states that he feels quite certain that there is some obstruction just at the top of his windpipe. Upon passing the finger into the fauces, and down to the seat of supposed difficulty, which caused great pain, I felt what I at first took to be the swollen epiglottis sticking straight up and feeling round like the end of the little finger; but upon more careful examination, it was found to be caused by effusion into the cellular tissue at the left side of the epiglottis, which had pushed the latter over to the right, curling it upon itself; the epiglottis itself was not thickened, or only very slightly. I immediately passed down a blunt pointed, curved bistoury, guarded to within half an inch of its extremity, and scarified the swollen membrane. Within five minutes the voice was decidedly improved, and patient expressed himself much better, and swallowed one or two teaspoonfuls of water with but little effort. Gave a full anodyne. Saw the patient three hours after, and found the difficulty again coming on, inability to swallow, voice husky, pain increased, very slight pressure over summit of the thyroid cartilage in left side gives severe pain. Upon internal examination with the finger, the bulging of the membrane was rather less, but still very marked. Again incised more thoroughly with a sharp pointed

* During my residence in the New York Hospital, a number of cases of this rare disease occurred, upon three of which I was called upon to operate; two of these were reported by Dr. G. Buck in the 4th vol. Trans. American Medical Association.

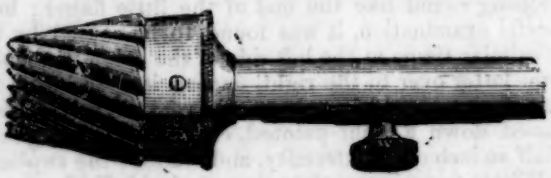
curved bistoury, guarded as before; each time the bleeding was very trifling. In a few minutes he was relieved, and swallowed some milk. Applied eight leeches over the seat of pain, and directed to encourage the hemorrhage with warm poultices. *Evening.* Improving; the pain was very much relieved by the leeches, which bled freely. Upon examination, the swelling is found to be subsiding. ℞. Pulv. Doveri grs. x.

Jan. 10th.—Has slept none, but has had an easy night; has not been to bed but sat in his chair as he has done since the commencement of his attack. Has only swallowed a few mouthfuls of water and thin arrow-root, but has had no difficulty in breathing, and no further sense of obstruction about the larynx. The œdema has almost disappeared, but the epiglottis is still somewhat curled on itself. Complains of some pain now on the right side of larynx; to apply a tobacco cataplasm. Patient convalesced slowly, but required no further treatment.

Cold Spring, April 10th, 1860.

III.—*A new Trephine; being adapted to the free and rapid penetration of the Cranium, without danger of wounding the Membranes.* With an Illustration. By G. A. D. Galt, M.D., of Virginia.

The object of this trephine is to divide the cranial walls without danger of wounding the membranes or brain substance. The advantage which it possesses over the instrument now in use, will be apparent on examination of both. It consists of a truncated



cone, with spiral peripheral teeth, and oblique crown teeth; when applied, the peripheral teeth act as cutting wedges so long as counteracting pressure exists on the crown teeth, upon removal, however, of that pressure, by the division of the cranial walls, its tendency is to act on the principle of a screw, but owing to its conical form, and the spiral direction of its peripheral teeth, its action ceases. When I first devised this instrument, it was my impression that the cone was an original idea of my own, but on examination of the Atlas of Blassins, I learned that an instrument had been in use, of a conical shape, with longitudinal peripheral teeth. I found after experimenting with it, that that instrument possessed very little advantage over the old trephine now in use,

inasmuch as it continues to cut after dividing the cranial walls, and consequently must wound the membranes and brain substance. I have operated on the dead subject twenty times, and have never succeeded in a single instance in wounding the membranes, though I endeavored to do so by applying additional force after having divided the cranial walls.

In the construction of the instrument it is important to preserve the *precise* relative shape of the cone given in the illustration, the *number, and course of the peripheral teeth being the same*, whether the instrument be larger or smaller than that here represented. In attempting to realize my original idea, I was repeatedly foiled by the failure to obtain a proper shape of the cone, and direction of the peripheral teeth. Upon this condition alone will the complete success of the instrument depend. For the information of those who wish to obtain this trephine, I would add that Mr. Tieman, of New York, manufactures those with which I have experimented, and can now furnish them according to the model here given.

[This instrument was submitted to the members of the *Surgical Section* of the *Academy of Medicine*, at a recent meeting, and on repeated trials, was found to fully answer the design of its inventor. In no instance were the coverings of the brain injured, and for this reason—the instant the crown teeth cut through the internal table, all action ceased, and the operator found it impossible to turn the crown. It was highly commended by the surgeons present, and will, we believe, prove a valuable and most important invention.—Ed. N. Y. Jour. Med.]

A new and complete Case of Surgical Instruments.—The practitioner of surgery not unfrequently has need of an operating case which, in a compact form, embraces the instruments necessary for any and all operations. To the country practitioner especially would a case of instruments thus selected be a valuable acquisition. Such an operating case has recently been prepared by W. F. Ford, 85 Fulton Street, New York, under the direction of Dr. James R. Wood, combining in a single case of moderate dimensions, instruments and apparatus adapted to every emergency in which the surgeon can be placed.

American Medical Association.—The Thirteenth Annual Meeting of the American Medical Association will be held in New Haven, commencing on the first Tuesday of June next.

The Quarantine and Sanitary Convention.—The Fourth Annual Meeting of this Convention will be held in Boston on the 14th of June next.

The Alms-House Department of the County of New York was abolished at the last session of the Legislature of this State, and the Department of Public Charities created in its place, which is to be under the charge of Four Commissioners appointed by the Controller.

A Bill to Regulate the Sale of Poisons passed the Legislature of this State, which requires persons who sell poisons, to register the name and residence of the party purchasing, unless the article is purchased on a physician's prescription; the vial or box containing the poison sold, must be properly and distinctly labelled.

The Metropolitan Health Bill which provided for the erection of a Metropolitan Health District, including the counties of New York, Kings, and Richmond, and the adjacent waters, was defeated in the Assembly of the New York State Legislature. If this measure had become a law, it would have placed these contiguous counties and Quarantine under the most rigid sanitary surveillance.

The Academy of Medicine has appointed the following delegates *to the American Medical Association*—Drs. J. P. Batchelder, W. Blakeman, Gurdon Buck, Alonzo Clark, J. C. Dalton, Joel Foster, John W. Francis, A. K. Gardiner, Jacob Harsen, S. T. Hubbard, J. Foster Jenkins, C. Krackowitzer, John Miller, H. D. Bulkley, James M. Miner, John P. Garrish, Valentine Mott, Benjamin Ogden, William Parker, E. R. Peaslee, J. O. Pond, S. S. Purple, J. M. Smith, A. H. Stevens, E. R. Squibb, John Watson, Isaac Wood, J. B. Wood, H. W. B. Woodhull, and D. M. Van Pelt.

To the Sanitary Convention—Drs. A. H. Stevens, J. W. Francis, Wm. Rockwell, Stephen Smith, Isaac Wood, E. R. Peaslee, Jacob Harsen, J. D. Douglas, John Watson, John W. Sterling, John P. Garrish, and C. Henschell.

Changes in Medical Journals.—The Buffalo Medical Journal recently issued simultaneously in Buffalo and New York, has been united with the American Medical Monthly of this City.

The Peninsular and Independent Medical Journal, published in Detroit, Mich., has been discontinued.

PUBLICATIONS RECEIVED.

West (Charles). Lectures on the Diseases of Infancy and Childhood. Third American, from the fourth revised and enlarged London edition. Philadelphia: Blanchard and Lea, 1860.

Todd (Robert Bently). Clinical Lectures on certain Acute Diseases. Philadelphia: Blanchard & Lea, 1860.

Dixon (James). A Guide to the Practical Study of Diseases of the Eye; with an Outline of their Medical Treatment. From the second London edition. Philadelphia: Lindsay & Blakiston, 1860.

Elwell (John J.). A Medico-Legal Treatise on Malpractice, comprising the Elements of Medical Jurisprudence. New York: John S. Voorhies, 1860.

Althaus (J.). A Treatise on Medical Electricity, Theoretical and Practical. Philadelphia: Lindsay & Blakiston, 1860.

Toynbee (Joseph). The Diseases of the Ear: their Nature, Diagnosis, and Treatment. Philadelphia: Blanchard & Lea, 1860.

Ashton (T. J.). On the Diseases, Injuries, and Malformations of the Rectum and Anus; with remarks on Habitual Constipation. Third edition. London: John Churchill, 1860.

Smith (Henry). Hæmorrhoids and Prolapsus of the Rectum; their Pathology and Treatment. Second edition. London: John Churchill, 1860.

Kidd (Charles). A Manual of Anæsthetics; Theoretical and Practical. New edition. London: Henry Renshaw.

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REFERENCES.

WILLARD PARKER, M.D., Prof. of Surgery, College of Physicians and Surgeons, N. Y.
JOHN T. METCALFE, M.D., Prof. of Institutes and Practice of Medicine, University of New York.
Mr. C. J. GILBERT, No. 61 West Twelfth Street, N. Y.
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